Transformation of Troubled Organizations: The Bulgarian State Railways Case

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ABSTRACT

Many managers ask them self “Why our transformational efforts fail? Why? We did everything in a full harmony with the best business practice learnt in business schools and collected during our experience.” However, the fact is that the transformation of troubled companies as the Bulgarian State Railways is a very demanding process hindered by many internal and external factors. Theories of organizational adaptation as well as Organizational Ecology discuss the challenges from the right perspective: They consider organizational inertia and process of spontaneous institutionalisation major obstacles any reorganization necessitated by environmental drifts has to deal with. The power of the factors undermining the reorganisations is so strong that in most cases the management will probably fail. The research looks at the major factors that affect the fitness of the corporation and describes the attempts of the managers to recover the going concern status of the enterprise. The study investigates the Hypotheses that the adaptive capacity and the speed of reorganisation of the troubled BSRG decline with: (1) the length of service of the inertial management, (2) the strength of the limits imposed on the company performance by the institutionalised collective labour agreements, (3) the strength of its organisational opacity and asperity, and (4) the intensity of the conflicting institutional demands presented by the internal and the external audience. The real problem is that the transformation of BSRG from a company on the verge of bankruptcy to a financially sustainable company took long eight years and the cost of the reorganization turned to be enormously high.

However, while confirming to certain extent the validity of the Theory of population Ecology, the dissertation simultaneously presents managerial approaches that increase the likelihood of organisational survival by improving the adaptive capacity of the enterprise.

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Abbreviations used:

BSRP - BSR Passengers Ltd

BSRF - BSR Freight Ltd

BSRH - Holding BSR Inc.

BSRG – Bulgarian State Railways Group

ISCM - Internal Security and Crisis Management

RS - Rolling Stock

MTSp - Material and technical supply

QMS - Quality Management System

RF - Recreation Facilities

VTC - Vocational Training Centre

SPM - Sale and property management

HR - Human Resources

IT - Information Technologies

MTS - Material and technical support

ICC - Internal company control

GA - General Administration

Chapter One

Transformation of Troubled Organisations: The Synthesis of Organisational Adaptation and Organisational Ecology

Chapter 1 presents the main theories that this thesis uses as a foundation for the research. The first part presents an overall view of the organisational change in organisational ecology and organisational adaptation paradigms, the type, the location, the content and the process of change. The second part examines the ambidexterity theory, contingency theory, structural inertia theory, and the institutionalisation theory in organisational change. The third part deliberates some aspects of the organisational change process. The fourth part is an attempt to designing a practice-informed synthesis of ideas explaining the transformation of troubled organisations.

1.1. ORGANISATIONAL CHANGE: PARADIGMS, TYPES, LOCATIONS, CONTENT, AND PROCESS.

Organisational Ecology vs. Organisational Adaptation

The study of the adaptive capabilities of the troubled BSRG is a practice-informed synthesis of ideas developed by the two major contemporary concepts of organisational change.

The population ecology theory holds that the change in the main features of organisations occurs through the selection and replacement process, i.e., the creation of new organisations and organisational forms and the replacement of old ones (Hannan and Freeman, 1977; Freeman and Hannan, 1983; McKelvey, 1982). Darwinian mechanisms in organisational populations depend on the degree to which those ostensibly in command can control change in organisational structures (Hannan & Freeman, 1984). Hannan and Freeman (1984) postulate that Darwinian arguments to changes in organisational populations will partly depend on the tightness of coupling between individual intentions and organisational outcomes. “At least two well-known situations generate loose coupling: diversity of interests among members and uncertainty about means-end connections. When members of an organisation have diverse interests, organisational outcomes depend heavily on internal politics, on the

balance of power among the constituencies. In such situations, outcomes cannot easily be matched rationally to the changing environment.

When the connections between means and ends are obscure or uncertain, carefully designed adaptations may have completely unexpected consequences. Moreover, short-run consequences may often differ greatly from long-run consequences. In such cases, it does not seem realistic to assume a high degree of congruence between designs and outcomes" (Hannan and Freeman, 1984).

The most important issues about the applicability of evolutionary–ecological theories of organisations according to Hannan and Freeman concern the *timing* of the change. They continue that learning and structural inertia must be considered in a dynamic context. "Can organisations learn about their environments and change strategies and structures as quickly as their environment change?" (Hannan and Freeman, 1984). The key issues are:

First, the temporal pattern of changes in key environments – are typical changes small or large, regular or irregular, rapid or slow?

Second, the speed of learning mechanisms – how long does it take to obtain, process, and evaluate information on key environments?

Third, how quickly can an organisation be reorganised?

The idea of structural inertia implies that organisations respond relatively slowly to the occurrence of threats and opportunities in their environments. Inertia is very high when the speed of reorganisations is much lower than the rate at which environmental conditions change. "Thus the concept of inertia, like fitness, refers to a correspondence between the behavioural capabilities of a class of organisations and their environments" (Hannan and Freeman, 1984).

The concept of population ecology theory is compelling as the ability of the management to develop a systematically correct vision, and foresight is practically very problematic. Even when the executives read the environmental dynamics correctly, they cannot systematically achieve what they aim to.

Adaptation theory, on the contrary, proposes that organisational transformation results from executive decisions (Carley and Svoboda, 1996). "The survival and prosperity of an organisation depend on adaptation to the environment and the

acquisition of necessary resources. Adaptation improves by anticipating consumer needs and desires, assessing the actions and plans of competitors, evaluating possible constraints and threats and identifying marketable products and services that the organisation has unique capabilities to provide.

Survival and prosperity also depend on the efficiency of the transformation process used by the organisation to produce its products and services. Efficiency is increased by finding more rational ways to organise and perform the work, and by deciding how to make the best use of available technology, resources, and personnel. Some examples of leadership responsibilities include designing an appropriate organisational structure, determining authority relationship, and coordinating operations across specialised subunits of the organisation" (Yukl, 2013)

The intellectual movement that believes in organisational adaptation postulates that adaptive capabilities improve over time due to learning and reputation and organisations can adapt to environmental change (O'Reilly and Tushman, 2008).

Organisations scan the changing environment, formulate proper strategic responses and attempt to adapt to environmental drift in order to ensure positive performance and long-term existence. Leaders or dominant coalitions make decisions responding to external threats and opportunities, and influence corresponding changes (March and Simon, 1958, Thompson, 1967, Cyert and March 1963). Overall, the adaptation camp of organisational change theories includes multiple, sometimes contradictory (Donaldson, (2006, p 28)) concepts, and it is hard to define (Lewontin, 1978).

The following parts outline the most pertinent aspects of contingency theory, ambidexterity theory and institutional theory, which are appropriate for the study of troubled organisation.

The two opposing camps of population ecology theory and adaptation theory produce conflicting positions about the idea of fundamental change. The adaptations theories argue that change is possible because the environment is not something immutable and managers can be active agents of it. Population ecology theory argues that change is impossible because of structural inertia, which is a feature of all organisations (Garcilazo, 2011).

Scott (1981: 204) claims that the selection and adaptation perspectives are not so different.

"…the natural selection perspective seems to us to be particularly useful in focusing attention on the core features of organisations, explaining the life chances of smaller and more numerous organisations, and accounting for changes in organisational forms over the long run. By contrast, the rational selection of resource dependency approach emphasises the more peripheral features of organisations, is better applied to larger and more powerful organisations and stresses changes occurring over shorter periods of time."

The doctoral thesis follows the idea of convergences of both theories. On the one hand, the adaptation theory describes the mechanisms and the tools through which the organisations attempt to transform themselves when the environment changes. On the other hand, the ecological theories portray challenges that are at least partly outside the control of executives in time of reorganisations. The outcome of the change depends on the dominance of one or more of the forces described by both theories.

Why do organisations change?

When organisations initiate significant reorganisations, it is vital to know the reason behind such a decision. Most of them drop in the subject of either adaptation or ecology theory. March (1982) and Burgelman (1994) remind us that a change sometimes occurs unintentionally as a by-product of other decisions and actions within the organisations. Merton (1936) points out that attempts at organisational change often take unexpected turns and lead to transformations other than those intended. The thesis looks into the factors that have led to the crisis of the BSRG and follows the development of these factors in the reorganisation period using the theory outlined below.

Internal Factors

Some of the symptoms of industrial sickness or explanations of failure observed by researchers are: poor leadership (Balgobin and Pandit 2001, Walshe 2004); operational inefficiency, past managerial mistakes, inertia leading to poor adaptability, erosion of competitiveness, non-availability of resources (Barker and Duhaime 1997, Bibeault 1982, Pearce and Robbins 1993); product failure, poor diversification, poor control systems, cost slippage (Panchali 2005). It is ironic that, even though management has direct control over all these functions, more than 80 percent of business failures arise due to management's inefficiency to control the internal

functions of business (Scherrer 2003). The most common errors of bad management described in the restructuring literature are a failure to keep pace with changes in the marketplace, lack of operating controls, overexpansion, and excessive leverage (Bibeault, 1982).

Hannan & Freeman (1984) develop the so-called "structural inertia theory which asserts that organisations become increasingly inert over time as procedures, roles, and structures become well-established. This theory denotes that the likelihood of organisational change decreases with an organisation's age. Structural inertia theory also predicts that the probability of change increases once a change occurs since the "clock" of inertia is essentially restarted when structures, roles, and procedures are regenerated in the process of change. The two predictions have been empirically supported (Amburgey et al. 1993). Hannan & Freeman (1984) argue that large organisations would be less likely to change due to the bureaucratic structure that typically accompanies size. However, others contend that larger organisations may be more likely to change because of their greater access to resources (Kimberly 1976, Aldrich & Auster 1986).

External Factors

The developments in the external environment identified by researchers as causing industrial sickness are: adverse governmental or controlling authority behaviours, unfavourable market conditions, industrial unrest, insufficient or excessively costly inputs, fluctuations in commodity prices, natural disasters (Panchali 2005); changes in international markets, unforeseen competition, financial market instability and technology changes (Manimala 1991, Khandwalla 1992, Pearce and Robbins 1993, Scherrer 2003); increased domestic and foreign competition, product or service innovations by competitors, changes in customer expectations (Balgobin and Pandit 2001, Walshe 2004); innovations in technology, recessionary conditions (Barker 2005), and so on.

Some studies combine the logic of structural inertia with attention to environmental constraints and opportunities. They find that many innovations require new organisational capabilities and that these are often difficult to put in place (Tushman & Anderson 1986, Henderson & Clark, 1990). An essential aspect of the organisational actions is that some organisations are implicitly assumed to be action-oriented, waiting

for an attractive opportunity while other organisations do not change until almost forced to do so by resource depletion or another crisis. Logically, troubled companies, which are the subject of the study drop into the second category.

"The reasons for most crisis situations are not simple, and the more time passes before the crisis is addressed, the more areas of business are affected, so a quick fix to the problem is seldom the solution to the problem. When lawyers, accountants and financial experts who restructure the business from their point of view handle turnarounds, they are rarely successful. Business is highly complex: what is done in one area of business affects the others, and it is rare that has only a single effect. A team of area-specific experts is not sufficient to treat a corporate crisis that has many different symptoms and causes. Problems will be overlooked, because of lack of knowledge and understanding about the complexities behind the business. This is why most turnaround efforts fail. A structured approach is needed" (Kristofer Limbersky, 2011).

As the theory of inertia postulates (see page. 13) organisational viability depends on the history of the events that affected the inflow and outflow of resources to and from the organisation. As such, it recognises that some organisational episodes can have lasting consequences. Correspondingly, the thesis goes into the reasons for the crisis of the BSRG, the role of the parties that drives them, and the role they play later on over the reorganisation period.

Change Types and Change Locations

The type of change and the location of the change are vital because in every situation the arguments of one of the theories, the adaptation theory or the ecology theory, are stronger. Thus, the interplay between the powers described by the two theories has a different effect on the transformational results. Depending on the type of change and the location of the change, the executives have more control or less control over the whole process of transformation.

Balogun and Hailey, (2004) formulate four types of change: adaptation, evolution, reconstruction, and revolution. They describe change as having two aspects – nature and scope. The nature of change is either incremental or a big bang. Incremental change usually influences a part of the organisation over a longer period, whereas a big-bang change usually happens when organisations suffer crises. The main change

scopes are transformation and realignment. The distinction between them is that while transformation cannot be handled within the existing paradigm, realignment can. There is no substantial change in the central assumptions and beliefs in an organisation for realignment to take place.

		Scope of	
		Transformation	Realignment
Nature	Incremental	Evolution	Adaptation
	Big Bang	Revolution	Reconstruction

Figure 1. Strategic change types (Balogun and Hailey 2004).

Figure 1, shows that both evolution and revolution are transformational in the scope of change. Evolution is incremental and describes prolonged periods of growth, with no significant disturbance. Revolution depicts substantial turmoil with a big bang nature (Greiner, 1972). This is the case of reorganisation of troubled companies, which is the subject of the study. It often occurs in a relatively short space of time and needs a rapid response. This quick change may encounter much resistance, and people may find it difficult for some time to accept such changes.

Mintzberg et al., (1998) divided all types of change into two categories: strategic change and organisational change, varying from conceptual to concrete in each four-hierarchy level. Strategic change category, presents changes in vision, positions, programs, and products, whereas organisational changes comprise systems structure, culture, and people changes, each ranging from highly formal behaviour to rather informal, overt to implicit. It is implied that managers must complement effective strategic change by the relevant organisation change at a similar level. As we can envision, the turnaround reorganisations include both strategic and organisational change.

Hannan and Freeman (1984) consider core and periphery features of organisational changes. Core organisational change contains four hierarchical features: organisational mission change, then authority structure, next technology and finally marketing strategic change. Hannan, Polos, and Carroll (2003a) particularise the

extensiveness of subsequent changes, which follow the initial change in the organisation. Changes in the core compel adjustments in related units of the organisation. It is called a cascading change and accounts for the indirect opportunity cost associated with the change transition. Consequently, core changes lead to other cascading changes throughout the whole organisation while a periphery change will not. Dobrev et al. (2003) suggest that selection and adaptation models be considered in terms of the different consequences of core vs. periphery change. Core change is better explained by an ecological view and is more disruptive, while periphery change is best described by adaptation theories and has fewer risks (Singh et al., 1986, Scott, 1981). Turning around a problematic company would not only require significant core changes but would also entail attention to peripheral issues and structures.

According to Wang (2011) contrasting the four types of strategic changes with the core and periphery concept of change indicates some similarity among them. Incremental change is more like periphery change, whereas the big bang is more like core change. Transformation can be considered as initiating internal organisational change, while realignment results from an organisation reacting to the external environment

Barnett and Carroll, (1995) postulate that due to inertial pressure, organisations seldom initiate core structural changes. The core change is unpredictable and increases the probability of organisational crisis and death. Amendments in peripheral structures may lead to a lower risk of mortality. Greve (1999) argues that core change makes the firm subject to a liability of change, less efficient internal function, inferior external legitimacy, and worse performance until the process of rebuilt transmission is completed because internal routines and links with the environment disrupt. Balogun and Hailey (2004) believe that most transformational change happens through a more evolutionary path because revolutions reshape the whole organisation and are difficult to attain. However, they argue that in any organisation's life cycle, periods of relative tranquillity will be punctuated with times of frame-breaking change. Similarly, Tushman et al. (1997) argue that most organisations are forced at some point to undertake discontinuous or frame-breaking change.

Change Content and Process

Organisational change is a transformation of an organisation between two points in time (Barnett and Carroll, 1995). Change content portrays what actually happens in

organisational changes. The critical aspect of change comes from comparing the organisation before and after the transformation. (Barnett and Carroll, 1995: P219). Significant transformational change consists of radical modifications in a single element or many elements of the structure. Change process denotes how change occurs and is implemented. Amburgey et al., (1993) has highlighted the importance of studying the process effect. The process of change refers to the way transformation occurs – the speed, the sequence of activities, the decision-making and communication system, the resistance encountered, and so forth. (Barnett and Carroll, 1995: P219). Dobrev et al. (2003) postulate that in order to understand the effect of the change process, it is necessary to consistently account for the interplay between the environmental and internal forces, which modify a transformation. They link inertia to disruptive process effects and imply that the content effect of change occurs independently, with the process effect prolonging the length of the transformation. The consequences of change are also the costs associated with the disturbance caused by the process of change, which could reduce the advantages of any positive content effects. Thus, the distinction between process and content is essential analytically (Barnett and Carroll, 1995), and both are examined in this study.

1.2. AMBIDEXTERITY, CONTINGENCY, STRUCTURAL INERTIA AND INSTITUTIONALISATION IN ORGANISATIONAL CHANGE

The concepts outlined below could create a synthesis of ideas that offer a deeper, more multi-faceted understanding of managerial challenges and potential actions that may facilitate the transformation of troubled organisations. Such a synthesis assembles a theoretical model of considering the transformational process. When a troubled company initiates a complex transformational process, the executive will attempt to understand the interaction between the environmental shifts and organisational status. They would try to reconfigure internal and external resources to adapt the organisation to the new reality and recover the current concern status. For that purpose, in the most optimistic scenario, they would apply the best business practices available. However, the train on which the executives would play is not free of hurdles.

Ambidexterity theory

Organisational ambidexterity refers to “the ability of an organisation to both explore and exploit, to compete in mature technologies and markets where efficiency, control, and

incremental improvement are prised and to also compete in new technologies and markets where flexibility, autonomy, and experimentation are needed" (O'Reilly & Tushman, 2013 p. 2). Organisations achieved ambidexterity in a *sequential* fashion by shifting structures over time to accommodate the conflicting alignments required for innovation and efficiency and to align the structure with the firm's strategy (Duncan 1976). Tushman and O'Reilly (1996) argued that in the face of rapid change, sequential ambidexterity might be ineffective and organisations needed to explore and exploit simultaneously. Dynamic capabilities are defined as "the firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments (Teece, Pisano & Shuen, 1997, p. 516)" or "the capacity of an organisation to purposefully create, extend, or modify its resource base (Helfat, et al., 2007, p. 1). "As such, dynamic capabilities, manifest in the decisions of senior managers, help an organisation reallocate and reconfigure organisational skills and assets to permit the firm to both exploit existing competencies and to develop new ones (O'Reilly & Tushman, 2008; Taylor & Helfat, 2009). In this way, organisational ambidexterity presents a complex set of decisions and routines that enable the organisation to sense and seize new opportunities through the reallocation of organisational assets" (O'Reilly & Tushman, 2013).

Research has shown that to manage contradictory demands of exploration and exploitation requires leaders who can balance the competing pressures of different organisational architectures. Gilbert (2005) found that the success problem was not the allocation of sufficient resources (e.g., investment) but the failure of the organisation to change the processes necessary to use these resources effectively. To be successful at ambidexterity, leaders must be able to orchestrate the allocation of resources between the routine and new business domains.

Contingency theory

Contingency theory is a part of the adaptation philosophy. In periods of hectic reorganisations, it gives a partial explanation of the reasons for successful and unsuccessful transformations. The theory focuses on the fit between organisational context and structure to explain performance. Organisations could be successful and have better survival chances only if "a goodness of fit" exists between the organisational structure and the contextual demands of the external environment, such as size and technology (Daft, 1983; Johannes M. 1992).

The theoretical model of Structural Adaptation to Regain Fit (SARFIT) formulates ideas about contingency dynamics. In SARFIT an organisation only remains in fit temporarily, until the surplus resources from the fit-based higher performance produce expansion. This increases contingency variables such as size and diversification, leading the organisation into misfit with its existing structure. The status of misfit provokes structural adaptation into a fit, which later on leads to a further expansion in misfit. As the organisation moves between fit and misfit, so it has resultant higher and lower performance, respectively (Donaldson, 2006). The organisation may attain not full-fit, but quasi-fit when a structure only partly fits the contingency. Hetero-performance theory (Donaldson, 2001) postulates that fits to higher levels of the contingency produce higher performance than fits to lower levels of the contingency.

Leaders influence organisational performance through making decisions about competitive strategy, organisational structure, and management programs (Yukl, 2008; Yukl & Lepsinger, 2004). Top executives usually have primary responsibility and authority for decisions about competitive strategy and the creation or modification of formal programs, systems, and structures (Hambrick, Nadler & Tushman, 1998; Hunt, 1991). However, a coordinated effort by leaders at all levels in the organisation is necessary to ensure effective implementation of a strategy, improvement program, or management system. How much influence top executives can have on the performance of their organisations is determined in part by internal and external constraints on their decisions and actions (Hambrick & Finkelstein 1987). Discretion is limited when internal factions and coalitions have sufficient power to block changes a leader wants to make (e.g., labour unions), or there is a strong organisational culture that is resistant to change. Large organisations with strong bureaucracy and standardised ways of doing things have inertia that is difficult to overcome. Discretion is constrained by influential external stakeholders who can dictate conditions.

The situational approach assumes that different attributes (e.g., traits, skills, behaviour) will be effective in different situations and that the same attribute is not optimal in all situations (Yukl, 2013). Research findings generate an extensive list of both: traits more likely to be found in the derailed managers and traits typical of the successful managers. *"Some managers were unable to shift from a focus on technical problems to the more strategic perspective needed at a higher level of management. Some derailed managers had technical expertise only in a narrow functional area, and they*

advanced too quickly to learn the skills needed to perform higher-level jobs effectively. Successful managers usually had experience in a variety of different types of situations where they acquired a broader perspective and expertise in dealing with various types of problems" (Yukl, 2013).

Adaptive leadership is an emergent, interactive dynamic that is the primary source from which adaptive outcomes are produced in a firm. It originates in struggles among agents and groups over differing needs, ideas, or preferences; it results in movements, alliances of people, ideas, or technologies, and cooperative efforts. Adaptive change is produced by the clash of the present, but incompatible ideas, knowledge, and technologies; it takes the form of new insights and creative ideas, learning, or adaptation. A familiar form of this change occurs when two interdependent individuals who are debating conflicting perceptions of a given issue suddenly, and perhaps simultaneously, generate a new understanding of that issues - this can be considered an "aha" moment. (Uhl-Bien, Marion, McKelvey 2007).

Theory of Structural Inertia

The following paragraph describes one of the most potent forces able to limit the adaptive capability of the top executives significantly. The so-called structural inertia is a crucial concept opposing adaptation theory. Some of the sources of structural inertia and the effects on the transformation of the BSRG are analysed in the next Chapters of the thesis.

Age-related structural Inertia. Age-related structural inertia is a fundamental concept in organisation theory. The theory presents explanation of a variety of organisational phenomena as (1) the positive relation between organisational age and the failure hazard, (2) the observation that older organisations tend to have more trouble adapting to the changing environmental conditions, or (3) the fact that the innovations of older organisations are similar to their previous innovation efforts (Barnett and Carroll (1995); Carroll and Hannan (2000); Sørensen and Stuart (2000); Gilbert (2005)).

The Le Mens, Hannan, and Polos (2015a), explanation for age-related structural inertia is based on the notion that people have strong tendencies to prefer the status quo both inside and outside organisations. Why?

First, people have a natural tendency to like what is familiar to them: this is the mere-exposure effect (Zajonc 1968). Second, people learn from experience, which leads

their job-related performance to increase with time. This, in turn, increases the perceived costs of change. Third, people come to like their environments because not doing so would create an uncomfortable state of cognitive dissonance (Festinger 1957). The motivation to reduce cognitive dissonance together with a ubiquitous self-enhancement motive leads people to see themselves as competent and even to systematically overestimate their competence (Aronson, 2007). This overoptimistic bias does not apply to the same extent for future jobs, and people will likely predict their competence and job satisfaction to be lower after the implementation of organisational change. Fourth, organisational change creates much uncertainty. However, people are risk-averse and ambiguity averse. Fifth, even if the change did not induce any uncertainty, it would likely imply that some aspects of the job would improve while others become less attractive. However, people are subject to the endowment effect that makes them systematically prefer the status quo, even if an outsider would view the new option as equally attractive as the older one (Samuelson and Zeckhauser, 1988; Tversky and Kahneman, 1981). Sixth, people might anticipate feeling regret if they do not resist the change and their upcoming situations turn out to be inferior to the status quo.

The above factors predict that individuals will be progressively resistant to change as they become more familiar with the prevailing state of affairs. Therefore, they assume that each individual in the organisation becomes increasingly likely to oppose a change in any architectural feature value the longer she or he has been exposed to it. Le Mens et al. (2015a) explanation most closely resembles explanations that focus on routines and organisational memory. They point out that organisational members will oppose change when management tries to implement it.

Hierarchy of Inertial Forces. Hannan and Freeman, (1984) conceptualise organisational structure as composed of hierarchical layers of structural and strategic features that vary systematically in flexibility and responsiveness. They determine the following rough hierarchy of organisations from the perspective of resource mobilisation: (1) *stated goals* – the ground on which legitimacy and other resources are mobilised; (2) *forms of organisational authority* and the basis of exchange between members and the organisation; (3) *core technology,* especially as encoded in capital investment, infrastructure, and the skills of members; and (4) marketing strategy in a

broad sense – the kinds of customers to which the organisation orients its production and the ways in which it attracts resources from the environment.

Hannan and Freeman, (1984) expect the likelihood of change by transformation to decline as one proceeds up the hierarchy. An organisation's initial configuration on these core features commits it to a certain form of environmental dependence and a long-term strategy. Although organisations occasionally manage to change positions on these dimensions, such changes are both rare and costly and expose an organisation to greatly increased risks of death. Thus, these characteristics serve as a possible basis for selection and replacement within populations of organisations.

Scot (1981) calls *peripheral* any structures outside the core of a company*,* the detailed arrangements, by which an organisation makes links with its environment and tries to buffer its technical core (for example joint ventures and interlocking directorates). Hannan and Freeman (1984) believe that properties of organisational charts and patterns of specific exchange with actors in the environment are more plastic than the core set. They can be transformed, because attempts at changing them involve relatively little moral and political opposition within the organisation and in the environment and do not raise fundamental questions about the nature of the organisation. Inertial forces on peripheral and buffering activities tend to be weaker than those on core features are. However, in times of turnaround reorganisations, when the hostility gets high, there is a high probability that the collisions about core changes spread out into the area of peripheral and buffering activities.

Obsolescence, drifting tests, and organisational life chances. Classical selection theoretical thinking postulates that organisations generally become obsolete as they age because of (1) environmental drift and (2) organisational inertia (Ranger-Moore 1997, Hannan et al. 2007). Environments drift because (new) rivals introduce superior technologies, designs, and strategies (Utterback and Abernathy 1975, Tushman and Anderson 1986) and because audience tastes change (Simmel 1904), but ageing organisations cannot adapt well to such changes due to increasing inertial pressures. As a result, performance starts to decline with age at some point. This pattern of decline in organisational performance at old age is commonly called liability of obsolescence. This phenomenon has been documented empirically in analyses of the hazard of organisational mortality (Barnett 1990, Barron et al. 1994) and rates of innovation (Sørensen and Stuart 2000).

Le Mens et al. (2015b) focuses on “intra-organisational processes rather than on selection processes that imply that older organisations are less robust to changing environmental conditions.” The Le Mens et al. (2015b) model proposes that organisations obtain the resources that matter for organisational survival from the audiences that they cater to. This external audience consists of actual and potential customers, actual and potential organisational members, and, more generally, any individual, organisation, or governmental agency that controls resources useful to the organisation and also takes an interest in the category.

A producer obtains resources from the relevant audiences when what it offers them is more appealing than what its competitors offer. Moreover, an offer tends to be appealing to the extent that it fits the tastes of the audience. The central idea is that when tastes drift, an ageing producer has more and more trouble adapting its offer to maintain an acceptable fit with the audience’s taste. At some point, the offer becomes so inconsistent with the audience’s taste that the producer can no longer capture enough resources from its audience to overcome its fixed cost structure. When this happens, an organisation’s stock of resources starts to deplete, and the hazard of organisational failure starts to increase.

An ample stock of (financial, material, and social) resources buffers the organisation from failure; but a small stock provides little buffer causing failure hazards to be elevated (Levinthal 1991). Whether the hazard of failure increases or decreases with ageing, therefore, depends on the sign of the *net flow of resources* from the audience. Organisational viability depends on the history of the events that affected the inflow and outflow of resources to and from the organisation. As such, it recognises that some organisational episodes can have lasting consequences (Carroll and Hannan 1989). For example, a decrease in organisational performance (e.g., due to organisational change) will have long-term effects on the trajectory of organisational capital, and thus organisational viability. This is consistent with existing empirical evidence (Amburgey et al. 1993).

Based on extensive prior theory and research (Hannan and Freeman 1984, Barron et al. 1994, Dobrev et al. 2001, Sørensen and Stuart 2000), Le Mens et al. (2015a) assume that organisations become more inert as they age. In their framework, strong inertia translates into low adaptive capacity. *Adaptive capacity* declines with age and

ultimately becomes very low, as producers get old. Organisations can adapt to changing conditions, but their adapting capacity declines with age.

The onset of Obsolescence. In the framework of Le Mens et al. (2015a), the speed at which inertial forces come into play depends on the speed of drift and the organisation's adaptive capacity (its initial level and the rate of decay). Once adaptation speed falls below the drift speed and stays there, the producer has lost its alignment with the audience. Then it is only a matter of time, until the intrinsic appeal of its offer starts to fall, followed by the decline of actual appeal, fitness, and finally organisational capital and the corresponding rise in the failure hazard.

Structural inertia is so strong that even when after the intended reorganisation the fitness of the company has recovered the mentality produced by it would put under question the existence of a troubled company or at least part of its business.

Institutionalisation theory

The following paragraph describes a powerful force able to limit the adaptive capability of the top executives significantly: institutionalisation. Institutional theories consider organisations as affected by institutions built up in broader environments or as affected by the institutionalisation built into their own histories. Modern sociological institutionalism (DiMaggio & Powell, 1983; Powell & DiMaggio, 1991; Scott, 2001; Jepperson, 2002; Hasse & Kruecken, 2005) considers organisations as substantially empowered and controlled by institutional contexts, and these contexts go far beyond a few norms or network structures.

Organisations facing conflicting institutional demands operate within multiple institutional spheres and are subject to multiple and contradictory regulatory regimes, normative orders, and cultural logics (Kraatz & Block, 2008). This makes compliance impossible to achieve because satisfying some demands requires defying others (Pache & Santos, 2010). Competing demands "are, also, likely to be imposed on organisations because of the existence of a few powerful referents that do not have enough power to dominate the field on their own and resolve conflict, but have enough power to constrain organisations to take their demands into account."

Institutional demands permeate organisational boundaries through two central mechanisms. First, actors located outside the organisation who disseminate, promote, and monitor the demands across the field, can convey them. These external actors

might be located in professional organisations, regulatory bodies, or funding agencies. They exercise compliance pressures on organisations using resource dependence relationships (DiMaggio & Powell, 1983; Oliver, 1991; Pfeffer & Salancik, 1978). When organisations depend on the main institutional referents for resources, such as funds, staff, or license to operate, they are likely to comply with what these stakeholders expect from them to secure access to these critical resources. Second, institutional pressures also manifest themselves internally as a result of hiring and filtering practices (DiMaggio & Powell, 1983). Institutional demands are conveyed by staff members, executives, board members, or volunteers who adhere to and promote practices, norms, and values that they have been trained to follow or have been socialised into. Organisational members who have been socialised or trained into a specific institutional logic are likely to be committed to defending it should it be challenged (Friedland & Alford, 1991; Thornton, 2002).

Spontaneous Institutionalisation. According to Le Mens et al. (2015), as organisations age, their invariant features get spontaneously institutionalised. On the one hand, people learn the routines, collect experience, get familiar with the environment, develop a liking and start feeling comfortable in it, because it generates certainty, stability, and reduces stress. On the other hand, people are afraid of the uncertainty of organisational change and some less attractive aspect of the job that might result from the transformation. In other words, "endowment effect makes them systematically prefer the status quo, even if an outsider would view the new option as equally attractive as the old one" (Le Mens et al. (2015). Moreover, "internal audience members are tied in a dense network and can generate serious cultural opposition to any change of these taken for granted feature values" (Liu, Polos, Hannan 2016). Hannan, Polos, and Carrol (2007) call the probability of such resistance "asperity" and argue that the higher an organisation's asperity, the slower the organisational changes that affect the taken-for-granted feature values.

Lio, Polos, Hannan (2016), develop a theory that focuses on the portfolio of types of offers in a particular market, rather than on the organisational features, as the subject of institutionalisation. In their theory, "the institutionalisation takes place between the focal organisation and the relevant audience segments in that market, e.g., the customers, enthusiasts, critiques of the products of the focal producer." They postulate that such external audience cannot directly generate asperity, but their taken-for-

granted beliefs and expectations indirectly have a slowing effect on adaptive capabilities.

Strategies addressing conflicting demands. Pache and Santos (2010) conceptualise organisations as complex entities composed of various groups promoting different values, goals, and interests. These groups play a significant role in interpreting and enacting the institutional demands exerted on organisations (Delmas & Toffel, 2008), as well as in making decisions in the face of these institutional constraints (George, Chattopadhyay, Sitkin, & Barden, 2006).

Oliver (1991) proposes strategies (listed in increasing order of resistance to the demands) available to organisations as they face institutional pressures.

Acquiescence refers to the adoption of arrangements required by external institutional constituents. It can result from taken-for-granted norms, from the conscious or unconscious imitation of institutional models, or from the voluntary compliance to institutional requirements. *Compromise* means that organisations at least partially satisfy all demands by balancing competing expectations, conforming only to the minimal institutional requirements or actively bargaining alterations of the demands. *Avoidance* tactics include pure symbolic compliance, buffering institutional processes by decoupling technical activities from external contact or escaping institutional influence by exiting the domain within which the pressure is exerted. A more aggressive strategy, *defiance,* can be exercised through dismissing or ignoring institutional prescriptions, overtly challenging or contesting the norms imposed, or directly attacking or denouncing them. Finally, manipulation refers to three specific manipulation tactics: organisations may attempt to co-opt the sources of the institutional pressures, to influence the definition of norms through active lobbying, or, more radically, to control the source of pressure.

Conflicting institutional demands may influence organisations at the ideological level, prescribing which *goals* are legitimate to pursue, or they might exert pressures at the functional level, requiring organisations to adopt appropriate *means* or courses of action (DiMaggio & Powell, 1983; Oliver, 1991; Scott & Meyer, 1991; Townley, 2002). To understand how organisations respond to conflicting institutional pressures, it is essential to consider the extent to which the different sides of the conflict are represented internally (Kim et al., 2007). Pache and Santos (2010) postulate that the

nature of the institutional conflict (means versus goals) interacts with the degree of internal representation (absence, single, or multiple) to shape the experience of conflicting demands and influence the strategies mobilised by organisations in response.

Conflicts over means only are not very challenging for organisations. They are peripheral and negotiable, and the likelihood of achieving a compromise is significant. The focus is on technical issues, and the demands are relatively peripheral for organisations. *Conflicts over goals* are more challenging for organisational members then conflicts over means because they threaten their core understanding of what the organisation is about. Independently of how demands are internally represented, it will be difficult to achieve a compromise on conflicting goals, since these are not easily negotiable. *In the absence of internal representation of the demands*, avoidance may indeed be viable as the mildest way to resist institutional demands without jeopardising legitimacy. Such situations are frequent for organisations that rely on a variety of external funding sources to survive since different funders might hold distinct views of what the organisation is about and what it stands. Organisations may also resort to defiance strategies when the tensions experienced by organisational leaders are too high to be treated with avoidance.

When one side of the competing demands is internally championed, organisations are likely to resort to avoidance strategies, since the internal champions of demand will find it easy and comfortable to circumvent those pressures for compliance they disagree with (Pache and Santos 2010). However, avoidance may not be viable over the long term, since a public divergence on the organisational goals may ultimately affect the organisation's legitimacy. More proactive strategies, such as defiance and manipulation, may thus be mobilised. The organisational members may be willing to reject the contradicting demands and manipulate external stakeholders' views, in order to make their own views prevail.

The final configuration of the model is the internal representation of both sides of a goal-based conflict. In cases where one of the internal groups involved in the conflict clearly dominates, this power imbalance reduces the need to destabilise the opposing groups. The dominant group's chances to succeed at manipulation will be high.

In situations where the two internal champions of conflicting institutional demands are equally powerful, the high stakes involved in a conflict around goals, combined with the

competitive commitment of internal groups, are likely to lead to strong internal tensions; competing groups are likely to resort to proactive resistant strategies to reject the contested demands and destabilise the other group with the hope of achieving domination. Ultimately, one group might end up winning the ideological battle and take control over the other through manipulation strategies. If no clear winner emerges, dramatic outcomes may occur at the organisational level: organisations may experience escalations of conflict leading to organisational paralysis (such as long-term strikes) or even more permanent organisational breakups (such as demergers, spin-offs, or organisational deaths).

The above rational has universal application as the postulates are generally valid for all organisations in different industries. However, it is an exceptionally useful basis for consideration of the reorganisation process of troubled enterprises.

1.3. ORGANISATIONAL CHANGE PROCESS

Change Cascades and Centrality

Organisational Architecture. The theory presents architecture as collections of sentences about ontology (definitions of the units in architecture) and rules (statements of which units have authority over which other units). Such sentences are regarded as codes. Some codes matter significantly in the sense that violations are punished very severely, while others are handled with a lighter touch (Hannan, Polos, Carroll, 2003).

It appears that organisational changes do frequently generate cascades of related shifts in the sense that a single initial change often begets a series of subsequent changes. Generally speaking, organisations with complicated patterns of interconnections among their units will generate longer cascades. Two elements are central. First, the number of stages of a cascade: the total time spent reorganising and the time span of a cascade will increase with the number of stages it contains. Second, the complexity of the pattern of connections among organisational units: the time spent reorganising within a cascade will be longer the more the pattern departs from the simple hierarchy. (Simon 1962).

The critical aspect is the centrality of units. A units centrality in the architecture depends upon the central role of the units that it constrains. A unit is central to the extent that it constrains units that are themselves central. Thus, the most central unit in the flat

hierarchy is less central than the most central unit in the vertical hierarchy. Two units are connected in an architectural sense if the feature values of one govern and constrain the architectural codes of the other. The expected time reorganising by an organisation during a cascade that originates in a unit is proportional to the centrality of the unit.

Periods of reorganisation are significant because devoting attention, time, and energy to reorganisation diverts members of an organisation from the tasks that generate revenues. Therefore, any durable change process entails substantial opportunity costs. Because management attention is focused on the change, opportunities are foregone; production is disrupted, relations with customers are left unattended as responsibilities are reallocated, and so forth. Each of these problems becomes more severe as reorganisation lengthens. The expected number of opportunities missed due to reorganisation and the hazard of mortality during a full cascade of reorganisations increases monotonically with the product of the organisation's viscosity and intricacy (Hannan, Polos, Carroll, 2003).

Intricacy, Opacity, Viscosity, Asperity

Intricacy. A strong and complex pattern of interconnections among an organisation's component units. Specifically, intricacy is the mean of the centralities of the units in the organisation.

Viscosity. The expected time it takes an organisational unit to respond to induced architectural code violations and bring local architecture into code conformity. The expected total time for reorganising into a cascade with a random origin presumably equals the product of the organisation's intricacy, and viscosity.

Opacity. The theory assumes that reduced foresight about the exact structure of connections among units impairs the ability to calculate accurately in advance the costs and benefits of an architectural change to those in the initiating unit. This miscalculation can give a rosier-than-justified expectation and thus prompt agents to undertake some changes with potentially disruptive results. Limitations on foresight produce a systematic tendency to underestimate the length of reorganisations and thus to underestimate the costs and risks of change. Given such systematic underestimation, managers can easily choose to enter into changes that cost far more than the expected benefits of completing the change.

In many cases, an organisation's structure imposes limits on what can be known. Information about some parts of an organisation is often unavailable in other parts and this is called "information impactedness." Stinchcomb observes that local information usually does not "have to flow anywhere in a hierarchy, except in aggregated form as a "budget estimate." Sometimes the hindrance to data flow arises from differences in the languages used in different parts of the organisation, which make it difficult for those outside a unit to interpret a full-disclosure description of the activities in an organisational unit. Other times, the lack of transparency arises due to strategic withholding of information. One component of the organisation is structurally opaque to another if the latter cannot readily see the interunit connections that flow from the former.

The expected number of unforeseen induced violations of architectural codes in a random cascade presumably equals the organisation's level of opacity. When violations cannot be foreseen, agents cannot plan comprehensively for reorganisation, and they cannot undertake as many adjustments in parallel. The fact that the unforeseen architectural code violations show up in mid-change causes slower adjustment, thereby extending actual periods of reorganisation. The expected duration of an unforeseen violation of architectural codes for a unit exceeds typically that of a foreseen one.

Asperity. Changes that break codes specifying identities encounter cultural opposition. The reactions could emanate from a variety of possible sources including local tradition, professional norms, organisational form of membership, or other identity constraints. The critical observations are that cultural opposition generates turmoil and turmoil is likely to lengthen reorganisation periods. The strength of cultural opposition can be difficult to anticipate if those who initiate a change do not share in the organisational culture of the members. It makes sense to distinguish extensional and intentional consensus. An extensional reading of an architectural code corresponds to what is called the "letter of the law," its literal meaning. In contrast, an intentional reading corresponds to the "spirit of the law." Because codes are highly simplified and cannot provide a complete specification of architecture, the deliberate consensus is much more essential to smooth functioning than the extensional consensus.

Asperity displays two defining characteristics. First, the cultural code must be restrictive in the sense that it allows only a narrow range of possible rules, structures,

or behaviours; many possibly functional alternatives are considered morally unacceptable. Second, the membership must understand and embrace the culture and be willing to enforce sanctions when violations of the code are detected. That means that the membership has a high level of cultural agreement about the architecture. The cultural asperity of the membership of one unit is higher than that of another within the same organisation if it has greater cultural homogeneity and a higher average degree of restrictiveness in members' schemata. When an attempt to eliminate an induced architectural code violation comes into conflict with local culture code, the new architecture becomes morally suspect for a unit's members. In such cases, there might be nothing operationally or mechanically wrong with the new code; indeed, the architectural change might very well prove beneficial, except for the cultural reaction. The probability that an induced architectural change mobilises cultural resistance to local architectural change usually equals the asperity of a unit's culture. It usually takes longer for a unit to eliminate an induced violation of an architectural code when cultural resistance is stronger.

Distance, Age (Tenure), Architectural Change and Adaptive Capabilities

The theory postulates that all things being equal, ageing increases the length of time it takes to change the organisational architecture and the offers in the portfolio. However, according to Le Mens et al. (2015a), the distance between the existing portfolio and the new one should also be taken into account. "The larger the distance between the incumbent type portfolio and the new type, the more dramatic the organisational changes in the interface between the producer and its type-specific audience" (Lio, Polos, Hannan 2016). Similarly, the larger the distance between the compelling features of an organisation and the new architecture, the more dramatic the organisational change. The more considerable distance requires a longer time to reorganise the resources to achieve a new organisational structure. The theory postulates that the expected duration of reorganisation depends on the predictive capability of the organisation and whether the attempt for a change encounters cultural resistance (Hannan, Polos, Carroll, 2007). Le Mens, Hannan, and Polos (2015a) refer to individual preference for the status quo as cultural resistance. Resistance varies in intensity from mild grumbling to unwillingness to cooperate in implementing change, to active efforts to thwart the change. Cultural opposition (asperity) generates turmoil; turbulence reduces the speed of reorganisation and increases the length of change.

The simple dynamic model of Le Mens et al. (2015a) demonstrates that the duration of exposure to organisational features by organisational members' increases with organisational age even when there is turnover. The assumption that people are more resistant to change when they have been exposed to a feature for a long time is enough to imply a positive relationship between age and structural inertia. Moreover, the broader the distribution of cultural resistance within an organisation the lower is the potential speed of architectural change. The expected total time spent in reorganisations by an organisation's units during a cascade with the random origin as well as the increase of mortality hazard due to an architectural change presumably increases monotonically with intricacy, opacity, and asperity, as well.

1.4. PRACTICE INFORMED SYNTHESIS

My experience with the transformation of the Bulgarian States Railways gives me a reason to propose a theoretical position, a kind of practice informed theory selection and synthesis, where I provide the argumentation for my theoretical contribution with the research.

Managers of troubled companies usually would not have the ability to anticipate the timing and the nature of the environmental shifts that endangers the existence of the organisation. They would be an integral part of the status quo that already cannot fabricate products or services satisfying the tastes of the customers. Even if, after a significant delay, managers realise that the environment has changed they would not be capable of designing a strategy to integrate, build and reconfigure internal and external competencies to address rapidly changing environments. Managers of the companies that experience liability of obsolescence are a fundamental part of the dominating routines and competencies that prevent them from quickly and correctly reading the environmental dynamics and designing a proper response. While they are not only part of organisational inertia, they are also the leaders of the inertial thinking. As such, the executives of the companies experiencing lengthy declining performance could be named inertial managers.

When the fitness of an organisation declines to the position of a troubled company and the going concern status is under question, the organisations' ability to adapt to the environmental shifts would depend primarily on the leadership qualities. Adequate executive attributes are the main prerequisite increasing the likelihood of survival. A

new management, capable of understanding the changing environment and formulating proper strategic responses to ensure positive performance and long-term existence is necessary. Because the survival of an organisation is dependable on the capability of the leadership to reorganise it, the management appointed to turn a company around could be named transformational management. The transformational management must initiate big bang reforms, which include core and peripheral changes. These type of reorganisations will produce numerous cascades and will provoke strong internal and external opposition. The transformational leadership will not only have to understand the whole complexities behind the business but also be able to implement the changes dealing with the internal resistance and conflicting stakeholders' demands. Such a situation requires skills and knowledge beyond the ordinary excellence of top managers.

When a company is on the verge of bankruptcy, the appointment of transformational management is the only chance for the organisation to survive. The old cohort, however, would not surrender without any turbulence. It is not enough to substitute part of the top management (the board of directors for example), as the inertial thinking would typically control the whole architecture of the enterprise. It could be expected that the old cohort would try to preserve as much from the past as it is possible. They would prefer to save the status quo allowing only marginal changes in the company mission, vision, strategy, architecture, and operations and thus hoping to protect their dominance in a company that, as they would believe, at the end of the day would avoid insolvency. The resistance of the inertial management would not come from a well-supported rationale, but from interests, fears, and emotions.

Moreover, they would typically generate significant support at every corner of the organisation because a critical mass of employees would share similar believes and values. Asperity would inevitably generate a collision with transformational leadership's intends. The confrontation between the opposing concepts of the inertial and the transformational management would reduce such company's adaptive capabilities, postpone the fundamental reorganisations, lengthen the transformation process, upsurge the cost of the reforms and increase the mortality hazard.

Transformation managers should be exceptionally skilful tactically to win the clash with the old cohort. They must be skilful enough to manoeuvre in a very hostile environment where internal audience prepares for the combat of their lives. Even when the

transformational managers win the battle with the inertial management, they will face a harsh reality.

The competence of the new leadership would have crucial importance. If the attributes of the management could not meet the demands of the transformational project, one more troubled company will disappear. It is, however, not very realistic to expect that all the managers would possess the attributes needed by a transformational manager. They may attain not full-fit to the profile of the transformation manager, but quasi-fit when attributes only partly fit the contingency (similarly to SARFIT page 11). As in the Hetero-performance theory, (page 11) fits to higher levels of contingency will produce higher performance than fits to lower levels of contingency.

In the best-case scenario, when managers are empowered with all the required knowledge and skills, they will begin to apply the best business practices available to transform the enterprise. In the light of the adaptation theory, this should lead to finding more rational ways to organise and perform the work, and by deciding how to make the best use of available technology, resources, and personnel. Transformational managers will attempt to create an appropriate strategy, redesign the business process, adapt the organisational structure, re-determine the authority relationship, and improve operations. However, even if the attributes of the management are suitable to exercise the reshuffle, the complete reorganisation will face hard challenges. The combination of quasi-fit and the listed below blockers of the reorganisation will reduce the adaptive capability of the organisation, thereby prolonging the reorganisation and increasing the mortality hazard. The major obstacles would be:

First, structural inertia and spontaneous institutionalisation will generate asperity driven by the internal audience. This asperity could have various sources and manifestations. Among the instances would be the established rules, regulations, routines, and norms that have guided the company's operations for many years and possibly decades. The danger that any reorganisation would bring to an end the prevailing state of affairs grounded on long-lived values, interests and believes would be an extra source of resistance, potentially coming from the employees. Another reservoir of opposition would be organised internal groups and societies like the trade unions for example. Assembled: rules, norms, regulations, employees and trade unions will create a significant part of the internal environment.

Second, the external audience could indirectly exercise influence on the reorganisation actions and processes. The regulating and funding bodies could have a deadly impact on the adaptive capability of organisations. They can postpone the allocation of resources crucial for the success of the reforms or block the initiatives of the transformational managers because of lack of capability to understand the complexity of the transformation, misunderstanding, or just because of private or group interests intended to keep parts of the status quo. Various other stakeholders like customers, local authorities and interest groups for example could intervene at any time in the re-organisational process objecting the restructuring measures that the transformational management aims to implement. Transformational managers would apply different strategies to address the conflict demands of the internal and external audience of companies. However, they would face limitations whose scope and magnitude would depend heavily on contingency.

Third, intricacy, opacity, and viscosity of a troubled company would challenge the process of transformation additionally by further decreasing the adaptive capability and the speed of reorganisation. The transformational managers would not only have limited knowledge about the troubled company, but their attempts to understand the puzzles would be hindered by the reduced foresight about the exact structure of connections among units and the content of their productivity.

Fourth, a transformation never happens overnight, and the leadership would experience many shifts. In the process of transformation, the transformational leadership would change both the organisation and itself. Managers come and go. For some reasons, they change employment. However, any change in the membership of the transformational leadership would change the attributes of the team as a whole. Potentially, managers who stay longer with the company might change their attitudes and values, as well. Some of the top managers might show features that have not been apparent at the beginning of the process of reorganisation. They might get used to the company, start feeling comfortable where they are, or even, after some time, find out that their interests are well satisfied. In other words, transformational managers could lose the last battle, the one with themselves. They might gradually turn to be swallowed by structural inertia and become crusaders of the newly spontaneously institutionalised status quo, whose integral part they believe they are. Even when managers have all the necessary attributes they might face a reality that reduces an organisation’s

adaptive capability, increases the time and the cost of change and upsurges organisation's mortality hazard. At the end of the day, the troubled company may find itself mentality where it was before the reorganisation, albeit the recovery of the going concern status.

The doctoral study applies the above practice-informed synthesis of the adaptation and the ecology theories to study the transformation of the troubled BSRG. Five hypothesis are tested in the research:

Hypothesis 1. The adaptive capacity of the troubled Bulgarian States Railways Inc. declines with the length of service of the inertial management and increases with the length of service of the transformational management.

Hypothesis 2. The adaptive capacity of the troubled BSRG to adjust to environmental drift declines with the strength of the limits imposed on the company performance by the institutionalised collective labour agreements.

Hypothesis 3. The adaptive capacity of the troubled BSRG and its subsidiaries to adapt promptly to the environmental drifts declines with the strength of its organisational opacity and asperity.

Hypothesis 4. The adaptive capacity of the troubled BSRG declines with the intensity of the conflicting institutional demands presented by the key stakeholders.

Hypothesis 5. The adaptive capacity of a troubled organisation declines with its age, but some critical factors and events improve it. Management's activities could improve the adaptive capacity of the BSRG.

Chapter Two

The Crisis and the Outcomes of the Change

2.1. POLITICAL AND ECONOMIC CONTEXT OF BSRG' REORGANIZATION

Political Context. The decade between 2010 and 2020 is a strange combination of turbulence and stability. The newly formed centre-right party GERB won the parliamentary elections of 2009 and from then on dominated the governance of Bulgaria with few exceptions. The party was re-elected three times.

After the elections in 2009, the new government aimed at improving state finance by following conservative fiscal policy and reorganizing some public systems. The severity measures required after the stagnation of the Global Financial Crisis led to massive protests and the resignation of the cabinet in early 2013, months before the end of GERB's term.

In the early elections the former leading party GERB received highest vote from the people. This was the first time since 1989 that a ruling party was re-elected nevertheless painful and unpopular reforms had to be implemented. However, as GERB received only 97 of the 240 seats, and failed to make a coalition, they refused the mandate, handing it down to the next party - Bulgarian Socialist Party (BSP).

Only two weeks after its initial formation the BSP government came under criticism and had to deal with large-scale protests. The protests continued over the lifetime of the government and led to early parliamentary elections held on in October 2014. GERB remained the largest party, winning 84 of the 240 seats with around a third of the vote. Eight parties won seats, the first time since the beginning of democratic elections in 1990 that more than seven parties entered parliament. GERB formed a coalition with the Reformist Bloc, had a partnership agreement for the support of the Alternative for Bulgarian Revival, and also had the outside support of the Patriotic Front. A majority approved the cabinet of twenty ministers. The ruling centre-right party dominating the coalition continued to follow the conservative agenda initiated by the end of 2009.

In April 2017, new early elections took place after the ruling party lost the president elections in October 2016 and the opposition threw the government out of challenge.

GERB won the elections for third time winning 95 of the 240 seats and formed a new coalition this time with the Patriotic Front.

Economic Context. The turbulent economic development of the country from the years after the beginning of the new millennium continues in the first years after the country's accession to the EU. In the period 2007-2008, economic growth amounted to 6.7% annual average, noting an acceleration from the annual average increase of 5.8% recorded in the period 2000-2006. The economic downturn in 2009 was followed by a protracted period of sluggish economic recovery, in which the growth of the economy did not cross the threshold of 2%. It was only after 2014 that economic growth accelerated, albeit remaining far below (only about 3%) the levels observed before the crisis. In this way, the country continues the process of convergence with EU income levels, albeit at relatively slow rates. Gross domestic product per capita reached 49.2% of the EU average in 2017, marking an increase of almost 10 percentage points compared to 2007.

Economic recovery in the country runs in parallel with remedial processes of eliminating economic imbalances. The chronic current account deficit declined rapidly after 2007, and in 2011 became a surplus for the first time after the profound institutional changes in the 90-ies of the last century. After the registered two-digit average annual inflation in 2008, the price level in the country exhibits relative stability and the accumulated inflation in the last ten years reaches only 9.2%, which gives Bulgaria a quarter-6th place in the EU for the stability of the price level during the period considered, but further increases the difference in price levels between the country and the community.

In 2016, the government drafted a dedicated action plan with measures that included regulatory changes and aimed at easing the conditions for doing business in the country, the results of which were evident as early as 2016, when private investment marked substantial growth. The inflow of foreign direct investment in the country remains far from pre-crisis-registered levels, the main factors of which (global trends, change in investors ' propensity to take risks, etc.) should be sought beyond the national framework. Bulgaria remains in the EU's forehead on the indicator borrowed foreign direct investments, with the size of the economy (GDP).

The currency board continues to be a stability factor. In the period 2007 – 2018, the country's foreign exchange reserves continued to rise, reaching 25.1 billion euro at the end of 2018. In the years following the introduction of the currency board, the country conducts prudent and conservative fiscal policy, based on the principles of fiscal sustainability and strict fiscal discipline. Government expenditures amounted to 37.3% of GDP on average for the period 2007-2017, with 47.6% of GDP on average for the EU.

Consistent and prudent fiscal policy-making over the years has led to a relatively low amount of sovereign debt. Despite its significant increase during the period considered, mainly due to developments in the banking system in 2014, Bulgaria remains one of the EU Member States with the lowest general government debt. The value of the indicator reached 22.6% of GDP in 2018, almost threefold lower than the critical value under the Maastricht criteria.

A stable and predictable macroeconomic environment is one of the main advantages of the country. The research Global Competitiveness Report 2017-2018 of the World Economic Forum puts Bulgaria on the 25th place in the world and 11th place in the EU under this indicator. In this way, over the last ten years the country has managed to improve its performance by more than 20 positions globally and with 4 positions within the EU.

Transport and railways. In 2017, Land transport services (road and rail transport) ensured the transport of 98.3% of the cargoes and 62.3% of the passengers in the country, demonstrating the leading role of this mode of transport for the whole sector in the country. The total length of railway lines in 2017 is 4 030 km. The density of the railway lines in the country is 0.0363 km/km². In 2015 Bulgaria had the seventh highest percentage of electrified railway lines from the EU Member States, with data showing that in 2017, 71.2% of the existing railway lines in the country were electrified (67.7% in 2007).

The opening of the railway market in the country leads to the entry of private railway companies for freight transport. The market for rail freight transport in Bulgaria is one of the most open to competition: The main operator's competitors have a market share of 48.8%, the third highest level in the EU. Rail services continue to be perceived as one of the most poorly functioning sectors, with the satisfaction of rail users being the

lowest in the EU. Despite investments in rail infrastructure in recent years, there remain limitations and challenges

A major problem for the development of the sector is the need to improve the operational and technical parameters of the railway infrastructure in a manner consistent with the service demanded and the safety requirements. A significant part of the railway lines in the country are constructed with geometric parameters, construction and facilities, suitable for the development of speed only up to 100 km/h. Speed over 100 km/h allow only 17.2% of the main directions, with only in some segments of the railway network it is possible to achieve a speed of 160 km/h. As of 2017, the projects for modernization of the railway line were completed in the areas of Septemvri – Plovdiv and Dimitrovgrad – Svilengrad, as well as the rehabilitation of separate sections of the railway line Plovdiv – Bourgas. It should be noted that the increased permissible speeds up to 160 km/h for passenger trains and up to 120 km/h for freight trains at the railway sections where projects are carried out.

For rehabilitation or modernisation may not improve the railway service if there is no overall improvement in the technical characteristics of the rolling stock of railway undertakings. Traffic speeds still do not sufficiently meet the international commitments made for the development of rail transport. The number of train delays increased, and in 2015 late 47% of domestic long-distance trains and 55% of international trains. The average technical speed for the movement of passenger trains is one of the lowest in Europe. This contributes to the poor state of the sector, while the movement of the railway network in the country is slow and uncomfortable. To ensure the safety of movement in many sections, it is not possible even the projected speed to be reached.

The general condition of the rolling stock in the country's railways is also at an unsatisfactory level. A significant proportion of locomotives, passenger and freight wagons operated on national railway infrastructure are obsolete. Overall, a key factor in the quality of the service offered is the poor condition of the available rolling stock, which does not meet European standards in terms of comfort, hygiene and quality and is, for the most part, operationally incompatible with European standards and requirements and cannot exploit the full potential of rehabilitated and modernised railway infrastructure (Analysis of the socio-economic development of the country after its accession to the European Union, Ministry of Finance of Bulgaria, January 2020).

2.2. THE BULGARIAN STATE RAILWAY CRISIS

In 2011, the railway industry in the EU, represented by 55 passenger and freight companies, had an annual turnover of more than EUR 50 billion and EUR 350 billion in assets. In the same year, out of 43 companies providing financial information, 23 generated a loss of EUR 3.6 billion (International Union of Railways). In the last decade, some railway undertakings were restructured to improve performance and avoid bankruptcy. However, the results of many of the restructuring efforts were questionable.

The Bulgarian State Railways is one of the railway companies in a process of reorganisation. After the end of Communism in 1989, the company lost its monopolistic position because of the growing competition in the transportation industry. In 2009, it was a 120 years old, large corporation with 15,439 employees, EUR 218 million turnover, and EUR 514 million in assets, with historically developed culture. (Audited consolidated financial statements BSRG for the period 2002—2017)

At the end of 2009, BSRG had archaic management, the financial health of the company was feeble, and the assets were heavily depreciated and depleted. The company collided with the economic crisis, which drastically reduced transport volumes; the heavy industry was crippled due to the restructuring of the economy; the population was concentrating in large cities; road transport was favoured by weaker regulation and lower charges for infrastructure access.

At the end of 2009, the company was on the verge of bankruptcy. All the areas of the business were affected by the crisis:

1. The company had outstanding debts of EUR 425 million while the net assets amounted to EUR 380 million. The debts made 77% of the assets, a very unfavourable capital structure (Audited Financial Statements 2002—2009 BSRG).
2. The loss came to EUR 34 million (15% of revenues). EUR 12.5 million of it was in the BSRF, and EUR 5.3 million of it was in the BSRP (Audited Financial Statements 2002—2009 BSRH, BSRP, and BSRF)
3. The excess capacity of 348 locomotives, 7,887 freight wagons, 683 passenger coaches, 754 properties and nearly 6,600 (out of a total of 15,439) employees, was generating significant fixed costs. The company was overstaffed because of the

severe decline of its workload (Audited Financial Statements 2002—2009 BSRG; *Plan for Restructuring and Financial Stabilisation of Holding BSR Inc.*).

4. The rolling stock was 30-40 years old, which was impeding any improvements in the service quality.
5. The underfunding by the state amounting to EUR 153 million for the period 2002—2009, was offset by an increase in liabilities to suppliers and creditors (Annual reports PSO contract 2002-2010).
6. The railway infrastructure was obsolete, and some parts were undergoing intensive overhauls, which led to an uncompetitive average speed of 50 km/h and interruptions driving away passengers and transporters alike.
7. The organisational structure was unnecessarily complicated. It consisted of 4 companies, 315 organisational units and 9 levels of hierarchy. The complexity was reducing the visibility over business activities which, made it difficult to implement the changes (Organisational charts BSRG, BSRF and BSRP 2009).
8. The maintenance of the rolling stock was cumbersome as 11 enterprises for the repair of wagons and locomotives were spun out of BSRG in the period 1999-2000. In 2008, the contract for maintenance of DMU was unilaterally cancelled without securing an alternative.
9. The company had EUR 30 million overdue receivables, including EUR 16 million from the Serbian, Macedonian and Greek railways (Audited Financial Statements 2009 BSRG).
10. During the inventory taking in 2011, 1133 freight wagons were discovered as missing (Inventory taking 2011).
11. The working conditions in the depots were poor due to dilapidated and non-renovated buildings.
12. The cooperation with educational institutions that produce professionals for the railway industry was more or less discontinued.

The management undertook wide-ranging reorganisation to turn the company around. However, additional problems emerge in the course of the reorganisation (Audited Financial Statements 2002—2017 BSRG):

1. EUR 34 million penalty interest on liabilities (from before 2010) to banks, suppliers and National Revenue Agency for the period 2010 - 2016.

2. EUR 12 million increased fees by NRIC and EUR 2 million from a cancelled agreement.
3. EUR 4.2 million for storage and safekeeping of excess capacity assets.
4. 29 court cases related to circumstances before 2010, with a total exposure of EUR 128 million and EUR 1 million of legal expenses for 2010-2016.
5. Eight new competitors emerge in rail freight transport.

The reforms driven by the transformational management generated a cascade of changes, confronted organisational opacity and provoked robust asperity. The following chapters deal with the analysis of the measures undertaken by the transformational leadership and the reaction of company's stakeholders. The positive outcome of the reorganisation is what engenders robust research interest in adaptive capabilities and effects of inertia on transformation speed and fitness of the BSRG and its subsidiaries.

2.3. THE OUTCOME OF THE REORGANISATION (CONTENT CHANGE)

Core structural changes

BSRG developed two detailed business plans: the first one for the period 2010—2014 *(Plan for Restructuring and Financial Stabilisation of Holding BSR Inc.)* and the second one for the period 2015-2022 (***Plan for Restructuring and Development of Holding BSR Inc. Group)***. The results of the reorganisations are:

Mission and Vision Change. BSRH, BSRP, and BSRF approved new organisational missions and visions via the Plan for Restructuring and Development of Holding BSR Inc. Group adopted in 2015. Each company within the Group adopted its mission and vision relevant to the type of services provided and to the competitive market position.

"The mission of BSRF is to be the most effective and eco-friendly carrier of heavy loads and at long distances, and to offer flexible services to all industries in Bulgaria and the region." "The mission of BSRF is to offer an integrated and safe transport service to passengers in and outside of Bulgaria, aiming to achieve 50% non-subsidised revenue in the long term".

Marketing Strategy Change. New organisational strategies were approved in BSRH, BSRP, and BSRF via the Plan for Restructuring and Development of Holding BSR Inc. Group adopted in 2015. Each company in the Group adopted its strategy relevant to

the type of services provided and to the competitive position on the market. However, they were identical.

“The management team (BSRF) uses a classic approach of the resource-oriented strategy consistent with the competitive situation on the market. Resources provide a full competitive advantage, but only when applied in an appropriate way to the market dynamics.” “We (BSRP) use the classic approach of resource-oriented strategy, consistent with the competitive situation in the market. Resources give full competitive advantage only when applied adequately to market dynamics.”

Organisational Structure Change. The organisational structure was simplified from 4 to 3 companies, from 9 to 7 levels of hierarchy and from 315 to 204 structural units for the period 2009-2017.

On 24 September 2010 BSR Traction Rolling Stock (Locomotives) Ltd. was transformed through a merger into Holding BSR Inc. By a protocol decision No. 151, dated 22 October 2011, issued by the Minister of Transport, Information Technology and Communications, the company name was changed from Bulgarian State Railways (BSR) Inc. to Holding Bulgarian State Railways (HBSR) Inc.

Technology Change. Until 23 May 2011, Holding BSR Inc. rented out its rolling stock to its subsidiaries to enable them to carry out cargo and passenger transport services and to provide them with locomotive traction, thereby earning revenue. Through the conversion of Holding BSR Inc., the ownership of cargo and passenger wagons and locomotives was transferred to the subsidiaries BSRP and BSRF, as it was necessary for the conduct of their business: provision of cargo and passenger railway transport services in the country and abroad.

Additional changes to the technology of the business that affect the way, in which BSRF, BSRP provide the passengers and freight transportation services, took place in the company. Marketing, planning, and budgeting systems were entirely changed, supply chain systems and logistics were renovated, control systems were further developed, and some business units and structures were either eliminated or transformed.

An example of the changes introduced by BSRF management is the optimisation of the shunting activity and outsourcing part of it through partnerships with other providers

of freight transportation services “including shunting associated with the processing of "single cargo" for the needs of all carriers.” Holding BSR Inc. remained the owner of all non-operating assets owned by the company at the time of the reorganisation and was to carry out all the transactions of management and operation of these assets. That was a change in the technology of the work in the company.

The financial outcomes of the reorganisation

The going concern recovery. The debts of the BSRG were reduced by 54%, from EUR 434 million in 2009 to EUR 190 million in 2018. However, EUR 101 million is due to the State, and the government has permission to increase the equity capital with precisely the same amount (done in 2019). Correspondingly, the overall indebtedness of the BSRG is EUR 89 million, down by 79%. That represents the normalised capital structure of the company with payables due only to suppliers and staff. The loss of BSRG was reduced from EUR 34 million in 2009 to EUR 8 million in 2017 and expected to be EUR 3 million in 2018. The recreational business unit was turned around to generate a small profit instead of a loss of EUR 1 million in 2010. The loss generating units – Parcels delivery, BSR Sped (freight broker), Rila Bureau (ticket sale point) – were closed. EUR 30 M of hard-to-collect receivables accrued before 2010 were written off (Audited Financial Statements 2002—2017 BSRG).

Excess capacity reduction. The excess labour capacity was reduced as the number of employees was reduced from 15,439 by the end of 2009 to 9,444 by the end of 2017. In other words, 5,995 employees were dismissed. Some of the excess assets — 91 properties (12% of all excess ones), 177 locomotives, 2 233 freight wagons and 351 passenger coaches (31% of all excess ones) were sold out for a total amount of EUR 22.5 million (Audited Financial Statements 2009—2017 BSRH).

Service quality. The company's substantial fixed costs and the priority to repay the debts in order to secure the going concern status of the company blocked all attempts to invest in any service improvement. From 2010 to 30 April 2018 EUR 320 million was paid out as a principal, penalty and regular interest charges. This enormous capital, remitted by BSRG, could have been directed to the acquisition of new rolling stock and investments in the company. This is the reason for the poor service quality and the poor working conditions.

Chapter Three

Research Methodology

Chapter 3 presents the research methodology of the study. The research of the transformation of the Bulgarian States Railways and its subsidiaries is not part of the academic “battle” between Positivism and Constructivism. Although the study predominantly uses observable and measurable facts, the last part of it is entirely dependent on qualitative methods and author’s observations. This kind of mixture of methods explained in the following pages is only due to the efforts to present the whole research problem in the best possible way.

3.1. RESEARCH AIMS AND OBJECTIVES

The research is a combination of three different approaches.

The first is a theory-driven study where the usage of theories that are intuitively appealing allows understanding the complex organisational change process. The summary of these theories is provided, and insights are generated from concepts and constructions.

The second is an illustration of the relevance and the application of these concepts in real life. A conclusion is made on how these constructions explain much of the observed outcomes.

The third is the so-called managerial component representing all the challenges as predicted by the theory and a kind of idiosyncratic assessment of the actual situation. It explains what the story was, what the recipe was, what the medication that the management applied was and why.

The causal story gives some answers to the *why* questions, but the intuition about how to win the game is similar to how a General works on a battlefield. The leader makes assessments based on experience, but they also improvise because sometimes it is a must. The third part is more like storytelling about what happened and the thoughts the leader had. Initially, the goal is to understand this complex phenomenon, and they do it in two steps: first, by looking at the theories and what these theories predict, and secondly, by applying these theories. The next step is to derive the strategy.

Moreover, the strategy is sometimes planned to some extent and in a way it is a kind of emergent strategy based on the considerable amount of time, thinking how to deal with this and how to deal with that. When I reflect on my decision-making process, this is best described as autoethnography.

Perhaps a useful analogy could be the following: theories of organisational change, adaptation, and environmental selection in combination with the assessment of challenges and constraints lead to a development of organisational change **strategy**, and to setting goals and targets. The implementation process is more similar (in military terms) to tactics: an understanding what **tactical** decisions are both useful to achieve the strategic goals and minimise the (often fairly adverse) process effects of organisational restructuring, strategic reorientation etc. While the strategy is to be studied in a theory-informed, quantitative manner, tactics require a more sensitive, context-driven, and multi-faceted approach, to capture the somewhat intuitive nature of day-to-day decision-making.

The logic of this research is as follows: here is a complex change phenomenon, here are the theories that deal with such phenomena, this is the way how the theories apply, this is what they reveal, and this is the way how leader's diagnosis leads to therapy.

The general research objective is theory-oriented. However, it has also an essential practical orientation. Explicitly, it seeks greater predictive validity in organisational change theories and is aimed at testing the broader implications of the institutionalisation theory, the inertia theory and the leadership parts of the contingency theory. Exclusive interest presents the effect of inertia, asperity, and the conflict demands of both external and the internal audience, and the re-organisational activities on the adaptive capabilities measured through company's fitness (performance). All of them are considered through models that incorporate both ecological and managerial (adaptation) theories. It also considers the effect that organisational features have on the change processes of a troubled company.

This study aims to comprehend the drivers of the crises of the Bulgarian State Railways Inc. that led the company to the verge of bankruptcy, the factors that block the reorganisation process and limit the adaptive capabilities, the components of the reorganisation, and the success factors that supported the organisational change.

3.2. RESEARCH PROBLEM

Serial studies in organisational change predict a meagre success rate of attempted organizational transformations. The research problem is that even though the expected outcome of the reorganisation of the BSR was a failure the management find a way to succeed against not so favourable odds. Theory states it would be hard to deal with the power of the trade unions, the conflicting demands of the stakeholders, and the opacity and the resistance. Moreover, how to overcome the practical challenges that show up in the change process is a big issue. The research explores the obstacles and how the management manoeuvre the boat in such rocky waters.

The study examines the organisational features reducing the adaptive capabilities of the troubled BSRG. The strength of these features and the effects they have on the fitness of the company and the speed of reorganisation, lead to conclusions that could be valid for the entire population of distressed organisations. Also, the research produces insights into mechanisms that could potentially facilitate the reorganisation process and improve companies' adaptive capabilities and fitness.

3.3. RESEARCH QUESTION

The research question is "Why are attempts at organisational change controversial, how is the change process hindered and how are the challenges overcome?" The six objectives outlined below are supposed to facilitate the process of addressing the research question and achieving the research aims:

1. To examine and describe the various internal and external reasons driving the crisis of BSRG and the attempt to transform the organisation;
2. To review and explain the type, the location and the content of the change in the light of the ecological and adaptation theories. I also distinguish the effect of change content from the change process in the BSRG;
3. To supply descriptive evidence about the key factors that reduced the adaptive capabilities and slowed down the reorganisation of BSRG;
4. To develop a dynamic financial performance measurement model that describes the single effect of the critical factors reducing the adaptive capabilities and the interactive effect of the proposed organisational changes;

5. To analyse the relationship between change length and change outcome through the lens of managerial theory and ecological theory.

6. To identify practical managerial implications and to raise business managers' awareness of any potential blockers of organisational changes. And, in this way to assist the managers in troubled companies in formulating a proper approach to organisational change.

3.4. RESEARCH METHOD

The research follows a combination of three different methodological approaches.

The first stage is a literature search for dependable theories explaining the organisational change and application of these theories in order to understand what they reveal about the practical situation.

The second stage consists of an analysis of the situation in the BSRG. This is the application part of the process when the goal is to derive concrete predictions. The idea is not to predict the outcome, because managers know what the outcome should be, it is more to predict what the difficulties are. This part is the application of the theory and its practical implications. It is about the theoretical framework and conclusions derived from the theoretical framework.

The third stage builds on the first two steps:

(1) First, the diagnostic in the medical process is available. The general theory allows us to identify what the issues are, all the investigations are done, the situation is assessed, and the diagnosis is made.
(2) Second comes the practical challenge of how to get around to all this. Even though there are no universal recipes because every single case has all sorts of idiosyncratic features, the use of autoethnography as a methodology allows describing what solutions the leaders have found to overcome the challenge of the reorganisation.

The research uses a complex methodology – one is the deductive part, which is a kind of theory. First, derive the theoretical conclusions then applying such conclusions in practice and this is more like applied research where what I check is what the theory

predicts concretely. Finally, comes the description of solutions applied in a particular situation.

The next part presents the concrete methods of the research.

Case study. The research question informs the method used in the study. The study of the transformation of the Bulgarian State Railways employs a *case study research method.*

Yin, (2009) recommends the use of case study methods when (1) “how” and “why” questions are being proposed, (2) the investigator has little control over events, and (3) the focus is on a contemporary phenomenon within a real-life context, particularly when the boundaries between phenomenon and context are not evident. The case study design is also valid because the “how” and “why” research questions in this study are to be dealt with by tracing them over time and are less likely to depend on a survey.

Eisenhardt cited in Grunbaum (2007), explains that the case study focuses on understanding the dynamics present within single settings. It is shown that the objects of case studies are usually strategic decisions, organisational structures, functions, processes, and organisational performance. Pitt (2005) recommends using a general model in a particular case and examining each posted link critically to better understand how the organisation functions. Correspondingly, this research explores the influence of the management attributes, conflicting demands of both the internal and the external audience, the trade union’s exercise of power, and the impact of intricacy and opacity of the organisation on the speed of reorganisation in the setting of the rail industry, by using a case study approach.

Qualitative assumptions. The use of qualitative methods makes it possible to identify insights, but some of them can be wrong. Some management decisions turn out to bring success while others lead to failure and this is evidence of randomness. Therefore, proof is needed. The qualitative judgments in the study support the development of assumptions where there are good reasons to believe that these assumptions are valid. A significant amount of qualitative evidence supports them. Based on the assumptions are developed five hypotheses, and they are justified by quantitative analysis.

Quantitative analysis. Most of the quantitative analysis in Chapters 4, 5, 6, 7 and 8 however, does not apply statistical methods. Instead, the testing of the hypothesis

materialises via a comparative analysis presenting the difference between the actual financial performance of the company and the potential financial performance.

Potential financial performance results from the alternative scenarios proposed by the management and included in the transformational plans. The quantitative analysis does not use statistical methods but uses statistical information. Altman Z-Score test, calculated over a number of years, under two alternative scenarios, presents the impact of the conflicting stakeholders' demands, the opacity of and the resistance in the company on the fitness of the BSRG and its subsidiaries, allowing conclusions about the adaptive capability and the speed of transformation.

The reasons why statistical methods are not useful in these parts of the research are the following:

1. The research is testing hypotheses, which are not statistical, and they are not tested with statistical methods. However, they are still tested with quantitative methods.
2. The research is based on quantitative information concerning the entire population, and no statistical sampling is necessary.
3. Because the research includes the entire population, the stochastic lows do not act, and the concept of statistical errors is not valid. The research uses reporting statistics and derives alternative modifications from concrete proposals of the management or other parties involved in the process.
4. The research involves the entire population. Therefore, the quantitative analyses are more precise without using statistical methods. The direct measurement of the effects is valid without any need for statistical methods.
5. The probabilities of the alternative modifications are not statistical probabilities. They are constructed from real situations with two possible alternative scenarios one of which materialises.

Still, the following statistical techniques and methods are applicable in Chapters 4 and 6 of the research:

1. Creation of databases and use of descriptive statistical techniques for processing and presentation of data (Chapter 6)
2. Statistical grouping of data by different parameters characterising the units of the population (Chapter 6).

3. Statistical methods: factor analysis, Varimax, Helvig's composite indicator, parametric test method, correlation analysis (Chapter 4).

Qualitative methods. Qualitative methods have a supporting role in the research and are applicable in the following two instances.

1. They support the development of qualitative assumptions. Based on the assumptions are derived the five hypotheses that are justified by quantitative analysis.
2. Presenting the lessons learned from the reorganisation of the BSRG and its subsidiaries and the solutions of the encountered problems (Chapter 9).

The qualitative methods include:

1. Content analysis of various documents: strategies, plans, budgets, reports, analyses, correspondences, and all other relevant documents.
2. The autoethnographic method gives insights about the developed assumptions and insights about the medication applied in the reorganisation of BSRG.

3.5. RESEARCH STRATEGY

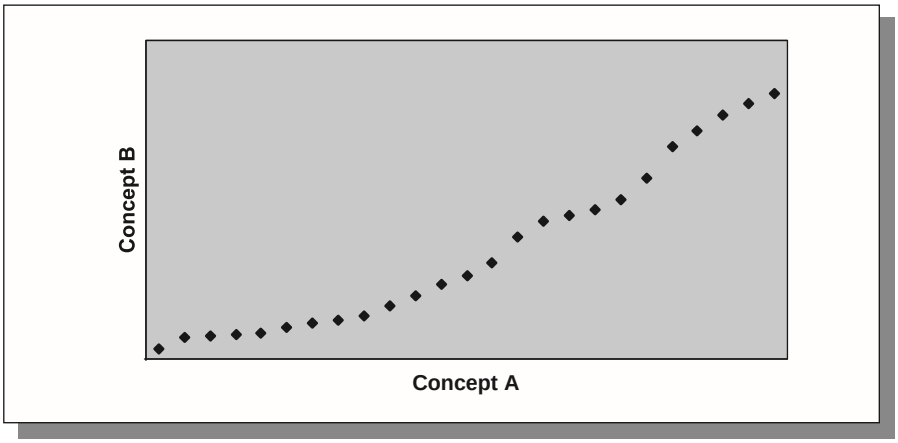
The five hypotheses (presented in the next part) originate from propositions that express a *deterministic relation*. A deterministic relation presumes that if the value of the independent concept changes, the value of the dependent concept will always change in a predicted way. Dul and Hak (2008) formulate propositions that express a deterministic relation between concept A and concept B as:

If A is higher, then B is higher.

This type of relation is depicted in Figure 2 as a continuous increasing relation between A and B: B increases with A. The deterministic relation between A and B could also be a continuous decreasing relation, depending on the proposition. A deterministic relation between A and B is not always a continuously increasing or decreasing relation. It can also be a relationship that is partly increasing and partly decreasing. For a deterministic relation, it only matters that there is one specific value of B for one specific value of A. (Dul & Hak, 2008)

Figure 2

Scatter plot of instances indicating a continuous increasing deterministic relation between concept A and concept B



"A proposition that expresses a deterministic relation implies that for every single instance in the domain the proposition is true according to the theory. This means that the proposition can be tested in a single instance. The preferred strategy for testing a deterministic relation is the experiment. If an experiment is not feasible, the longitudinal single case study or the comparative case study is the second-best strategy. In the longitudinal single case study the independent concept in the single case changes "naturally" with time, and the corresponding dependent concept for each moment in time is measured (either in real-time or post hoc)" (Dul & Hak, 2008). In Chapter 4, which deals with the management prototypes, the above notion takes place as the financial performance (the dependent variable) is measured post hoc whereas the management prototype (the independent concept) changes with the time.

In Chapters 5, 6 and 7 the usage of experimental scenarios allows comparing the real performance of the company with the potential performance that could have materialised in the case of adoption of the management propositions. The alternative scenarios present the real potential outcome of the situation in case the other parties had ignored their proposals and had accepted the initiatives of the management. Chapter 8 presents the effect of the combination of all the causal factors analysed in the previous chapters.

3.6. RESEARCH ASSUMPTIONS AND HYPOTHESIS

Assumption 1. The reorganisation and performance depend on the management prototype. Two antagonistic management prototypes are present in the process of restructuring of the BSR: the old cohort trained in obsolete system reasonably similar

to that in the army and the more up-to-date transformational management that has the diverse professional background, education, and experience.

Hypothesis 1. The adaptive capacity of the troubled Bulgarian States Railways Inc. declines with the length of service of the inertial management and increases with the length of service of the transformational management.

Assumption 2. Trade unions and performance. Trade unions could block or postpone the transformation of organisations. Collective labour agreements could generate resistance that reduces the speed of transformation, increases the cost of change and could increase the mortality hazard during and after the reorganisation

Study hypothesis 2. The adaptive capacity of the troubled BSRG to adjust to environmental drift declines with the strength of the limits imposed on the company performance by the institutionalised collective labour agreements.

Assumption 3. Change process and performance. Once environment drift and the internal inertial pressures compromise the corporate architecture, and the company fitness declines, reorganisation appears to be the last option. However, opacity and cultural resistance have a significant influence on the speed and cost of the transformation of distressed organisations in hectic periods of reorganisations.

Study Hypothesis 3. The adaptive capacity of the troubled BSRG and its subsidiaries to adapt promptly to the environmental drifts declines with the strength of its organisational opacity and asperity.

Assumption 4. Conflicting stakeholders' demands influence the performance of troubled organisations in times of change. The process of transformation of the BSRG was framed by the conflicting demands of the most powerful agents of both the internal and the external audience. The conflicting claims in the limited surge space predetermined the timing of the change. The intensity of the conflicting institutional demands in BSR is higher when they have significant control over decision-making and a substantial negative impact on the organisation's fitness.

Hypothesis 4. The adaptive capacity of the troubled BSRG declines with the intensity of the conflicting institutional demands presented by the key stakeholders.

Assumption 5. Reorganisation success factors and fitness. Age is critical to adaptive capabilities. When the tenure of an organisation in the market increases, its speed of

movement in the market space declines. However, the presumption is that some crucial events and appropriate activities of the management could potentially amend the age of an organisation.

Hypothesis 5. The adaptive capacity of a troubled organisation declines with its age, but some critical factors and events improve it. Management's activities could improve the adaptive capacity of the BSRG.

3.7. VARIABLES BY HYPOTHESIS

Hypothesis 1. Management prototype and performance

1. Independent variable – critical attributes of inertial vs. transformation managers.
2. Dependent variable – organisation's fitness.
3. Control variable – a situation demanding reorganisation.
4. Operationalisation – in a given situation, different traits lead to reorganisation success or failure.
5. Causal mechanism – the inertial management deteriorates the fitness of the troubled BSRG and its subsidiaries and reduces the speed of transformation while the transformational management improves company's fitness and increases the reorganisation speed.

Hypothesis 2. Trade unions and performance

1. Independent variable – trade unions' strength.
2. Dependent variable – organisation's fitness.
3. Control variable – organisation's size.
4. Operationalisation – controls over decision making as encoded in the organisational status quo through the collective labour agreements.
5. Causal mechanism – collective labour agreements deteriorate the fitness of the troubled BSRG and its subsidiaries and reduces the speed of transformation.

Hypothesis 3. Conflicting stakeholders' demands and performance

1. Independent variable – the strength of the conflicting stakeholders' demands.
2. Dependent variable – organisation's fitness.
3. Control variable – the situation demanding reorganisation.
4. Operationalisation – conflicting institutional demands limit decision making and execution options for managers.
6. Causal mechanism – conflicting institutional demands deteriorate the fitness of the troubled BSRG and its subsidiaries and reduces the speed of transformation.

Hypothesis 4. Change process and performance

5. Independent variable – company's opacity and resistance.
6. Dependent variable – organisation's fitness.
7. Control variable – the situation demanding reorganisation.
8. Operationalisation – opacity, and resistance delay reorganisation and could block the transformation of a troubled company.
7. Causal mechanism – opacity and resistance deteriorate the fitness of the troubled BSRG and its subsidiaries and reduces the speed of transformation.

Hypothesis 5. Critical success factors and fitness

1. Independent variable – critical success factors and events related to the reorganisation.
2. Dependent variable – organisation's fitness.
3. Control variable – the situation demanding reorganisation.
4. Operationalisation – As the tenure of an organisation on the market increases, the speed of its movement in the market space declines. However, some critical factors and events could amend the age of an organisation. Taken-for-granted features and beliefs do not hold as before, and people tend to neglect the status quo to a certain extent. Secondly, internal audience members are not tied in a very dense network any longer, and the cultural opposition they can generate is not as efficient as before. The momentum holds, at least for a given period, but

when appropriately used it can allow a sustainable change of organisational features.

5. Causal mechanism – when appropriately used, critical success factors and events could improve the company's fitness.

3.8. RESEARCH DATA AND SOURCES: A CRITICAL EVALUATION

Data sources

1. Company archives are the principal sources of evidence regarding the change in the Bulgarian State Railways.
2. State agencies – the National Statistical Institute, the Railway Administration Executive Agency, the Ministry of Transport and other relevant institutions provide additional information.

The data sources are part of the reference works section.

Data types

1. The archives offer thorough information about different aspects of work including plans, budgets, financial reports, organisational architecture, collective bargaining agreements, interactions with stakeholders, board decisions, staff records, etc.
2. State agencies provide information about trends in the transportation industry and railway sector, as well as data about economic trends, competition, governmental decisions and policy.

Availability, reliability, confidentiality, and biases

1. Company archives provide readily available information and no confidentiality, conflicts, resolutions, or data cleaning issues need consideration. The data is reliable. However, the completeness of the information is not 100% indisputable.
2. State agencies provide available and reliable information. Confidentiality and access to data is not an issue for the CEO of BSRG Inc.

3.9. RESEARCH MEASUREMENT

The financial performance of the BSRG and its subsidiaries, as a dependent variable, reflects the alternative scenarios of the change. As one of the aims of the research is to measure the adaptive capability, an appropriate estimate is the overall fitness of the BSRG and the subsidiaries. The KPIs that present the financial performance of the company are EBITDA, EBIT, net profit, equity, assets and debts. Altman's Z1 score gauges the fitness of the enterprise and allows comparisons reflecting the cost and the speed of reorganisation. In the first scenario, the fitness of the companies reflects the effect of the obstacles in the process of reorganisation. The cost of delay of change including the internal expenses – penalties charges, labour cost, postpone savings, and so on, and the external opportunity costs such as the lost opportunities to repay the debts early on, portray the overall cost of inertia, asperity, and opacity in the institutionalised company. The fitness of the BSRG and its subsidiaries reveals the effects of the measures undertaken by the management in the second scenario.

3.10. DATA ANALYSIS

The data analysis in Chapter 4 follows the case study logic for a predicted continuously increasing or decreasing relation: comparing the rank orders of the independent variable with the dependent variable. “The hypothesis is confirmed if the two rank orders are exactly the same, assuming that both rank orders have been compared in the direction from low to high, or in the reverse direction, that is predicted by the hypothesis. If the rank orders differ, the hypothesis is rejected.

Rank orders might differ considerably or only slightly (e.g., when the rank orders differ only for two measurements out of a large number). If the rank order differs only slightly, it is tempting to conclude that the hypothesis is almost confirmed. This is only acceptable if, in a large number of instances, only a few exceptions occur, and a *pragmatic deterministic view* is chosen. Normally the hypothesis is rejected if the predicted pattern does not match with the measured pattern” (Dul & Hak, 2008).

The data analysis in Chapters 5, 6, 7, 8 follows the logic of experimental quantitative comparisons of two alternative scenarios:

The first (inertial) scenario presents the real financial performance of the company form the beginning of the transformation in 2010 up to 2018 when the status of a troubled

company is almost not relevant any longer. In this scenario, the financial performance of BSRG and its subsidiaries reflects the outcomes of the reorganisation as it was taking place.

The second (transformational) scenario presents the alternative development of the reorganisation that could have taken place if the stakeholders (including the trade unions) had accepted the proposals of the management and the opacity of the BSRG and its subsidiaries did not exist. This scenario presents experimentally the outcomes of the reorganisation under the condition that the inertia, asperity, and opacity did not exist.

1. The first four hypotheses (described above) are tested by investigating the causal relationship between the dependent and the independent variables.
2. Each of the hypotheses, the management prototype, the trade unions' power, the opacity and resistance, and the conflicting stakeholder's demands, is tested with two antagonistic independent variables. The two antagonistic variables reflect the organisational changes over time. The resulting fitness outcomes are compared to verify the hypothesis.

3.11. RESEARCH THEORETICAL CONTRIBUTIONS

1. Broadly speaking, the research contributes to the understanding of the applicability of structural inertia theory, institutionalisation theory, contingency theory, and change theory.
2. The research brings new insights into inertial forces resulting from management prototypes, trade unions, the spontaneous institutionalisation of stakeholders' demands and the cultural aspects of such transformation blockers as opacity and resistance.
3. More specifically, the research tests and brings insights into three types of processes that can delay or prevent a change in organisations:
    a. The research contributes to the understanding of the internal (taken-for-granted features) and the external (audience) aspects of institutionalisation. Particular focus is given to internally and externally generated asperity that slows down the organisational changes. The external audience cannot directly generate

asperity, but their taken-for-granted beliefs and expectations indirectly have a slowing effect on adaptive capabilities.

b. The research contributes to the understanding of the transformational process including consequences of opacity and resistance, i.e., sluggishness of response.

c. The research contributes to the understanding of certain aspects of the political process by examining the effect of conflicting stakeholders' demands on adaptive capability.

4. The research contributes to the understanding of the critical success factors facilitating the process of transformation of troubled organisations like the BSRG and its subsidiaries. The research illustrates mechanisms capable of reducing the age of organisations and improving their adaptive capabilities. This knowledge is transferable and applicable in diverse populations across various industries and different countries.

Chapter Four

Management Prototype and Company Performance

Contingency theory postulates that alternative management prototypes affect the adaptive capabilities of organisations in different ways. The relevance of this adaptive concept is even higher in times of emergency and reorganisations. The following Chapter 4 illustrates the two management prototypes, which are present in the top management of the BSRG at the time of crisis and reforms. Comparative analysis allows contrasting the financial performance of the company under the two antagonistic managements: the inertial management and the transformational management.

4.1. INTRODUCTION

Two antagonistic management prototypes are present in the process of restructuring of the BSRG. The old cohort was trained in an old system that was similar to that in the army. The problem with every army is that its soldiers are ready for the last war, yet not for the next one, because all their experience and everything they were taught of is in the past. They are not open to the future. In other words, the “derailed inertial management” is imprinted with norms institutionalised a long time ago. Transformational management has a diverse background, education at various universities, and varied kinds of experience. The transformational management has a less entrenched set of expectations, less well established knows, and more flexibility, more openness because of its diversity and heterogeneity. This more flexible and more goal-orientated approach results in better performance. The transformational management is not established like an army, but like a business, they have to survive in the competitive environment and have to perform the same way as any other business. In addition, it is about an entirely different mind-set, a completely different complex of values and orientation. In the army, it is vital to maintain tradition and stick to established norms because that is what constitutes the social order. This is a prototypical case of imprinting. The background and the education you have tells you the values you have to pay attention to, the essential things you have to focus on, as well as the non-important ones.

The goal of the leadership part of the research is to measure, how management prototype affects the adaptive capability of the BSRG. The government appoints the board of directors of BSRG. However, in reorganisation-free periods the overall governance of the corporation depends on the internal process as even the top managers are recruited internally.

In a situation demanding reorganisation (control variable), different traits lead to reorganisation success or failure (operationalisation). In other words, the set of critical attributes of the two types of management present in the transformation process (independent variables) and the overall fitness of the organisation (dependent variables) are contingent on the situation. In the BSRG, the s*ituation directly affects the leaders' behaviour and the outcomes, and moderates the effects of leaders' behaviour.* The management is inertial when the negative impact on the fitness of the company is higher. The inertial management deteriorates the fitness of the troubled BSRG and its subsidiaries and reduces the speed of transformation while the transformational management improves the fitness of the company and increases the speed of the reorganisation (causal mechanism).

Hypothesis 1. The adaptive capacity of the troubled BSRG declines with the length of service of the inertial management and increases with the length of service of the transformational management.

4.2. METHODOLOGY

Top Management Profiles

The profile of the top management of the BSRG is based on the methodology developed in the company under the guidance of the author of this thesis. The purposes of the methodology are twofold: on the one hand to serve the current research and on the other hand to support the senior management of BSRG "for analysis and development of expert capacities within the BSRG." The methodology provides six indices to be monitored on an annual basis. For the purposes of this research, the six indices apply retrospectively while the management's practical purposes, they apply perceptively, as well. The six indices are, as follows:

1. The average age of the top managers. The average age shows some trends towards reduction or increase in the age of the company's top management, by professional areas and by companies.

2. Total professional experience of the top managers. The overall professional experience indicates the professional experience accumulated by the top managers, by professional areas, and by companies.

3. Professional experience of top managers within the BSRG. This monitors the professional experience in the BSRG as a share of the overall experience. An increase in this index would usually mean excessive encapsulation of skills within the BSRG system. While this may make sense in some specific professions, others will need a higher level of versatility in both professional and social experience, and import of third party's experience, knowledge, and business practices. This is analysed by levels of professional areas and companies.

4. Market economy business knowledge. The number of those who have acquired their education degrees upon 1990. Education degrees acquired upon 1990 make an essential indicator for the adequacy of knowledge acquired. Up to 1989, Bulgaria made part of the former socialist countries' block, and education was highly ideological, with market economy or management in market economy conditions being non-existent at all. This is analysed by levels of seniority, professional areas, and companies.

5. Educational diversity. The number of higher education institutions from which managers are recruited. This monitors the portfolio of education institutions and qualifications ensuring managers' basic skills. A smaller number of repeated institutions and qualifications may put some limits to versatility and quality of employees' skills. It would be useful to search for a balanced mix of institutions providing staff to railways, even in the case of specialised professions. This is analysed by levels of professional areas and companies.

6. Professional adequacy. Adequacy of competences for the top management positions. Adequacy of competences and positions shows the extent to which professional experience and education levels of respective top managers match requirements for the position held by them. This monitors adequacy both in staff development and promotion within the BSRG' companies and adequacy in the case of

external selection by third party companies. This is analysed by levels of professional areas and companies.

Senior management. Senior executives influence the development of the entire company. They lay down the company's strategic goals, draw up measures for the implementation thereof, control the achievement of the outcome and remain responsible for it. Senior management includes (1) members of the Board of Directors, (2) managers of BSRG subsidiaries, and (3) heads of directorates and head of the Legal Department at the BSRG and its subsidiaries

Adequacy of the Top Managers to the Occupied Positions

The BSRG is a company operating all across the country. In 2010, it managed assets worth over EUR 500 million, has over 15,000 employees and an annual turnover of over EUR 200 million. In order to manage such a company when it is on the verge of bankruptcy, it is essential to have experience in optimisation, restructuring and overall business transformation of companies, and their development and market expansion. Determining what the adequacy of positions held comes after an assessment of qualifications and managerial experience over the years of Board of Directors' members. A methodology was drawn up to assess each member's qualifications and experience. This methodology uses a scale of grade points to avoid the subjective factor and to get an overall note by periods. Correspondingly, managers holding leading managerial positions at the BSRG management from 2002 through 2018 are included in the classification.

Qualifications. Qualifications are determined by the educational level acquired by each of the members of the BSRG Board of Directors. (Points are accumulated to a maximum value of 15)

1. 0 points – in the case of higher education degree at an expert level: the education is not adequate to the position held; education, which is not about knowledge in business management (philosophy, sports, and other majors, which may not contribute to company's management);
2. 3 points – in the case of a Bachelor's degree related to business or in the case of a Master's degree in an area excluding business management.
3. 1 point – for postgraduate, business management related qualifications

4. 2 points – in the case of a Master's degree in an area related to business management; education in engineering including managerial skills;
5. 2 points for a second degree, Master's, relative to business management;
6. Another 5 points for one of the following professional qualifications:
    - in marketing: CPM (Certificate in Professional Marketing), PCM (Professional Certified Marketer), CMMP (Certified Marketing Management Professional);
    - in Human Resources: CIPD (Certificate in Personnel Practice), SHRM-CP -- (Society of Human Resource Management Certified Professional), HRCI-HRMP (Human Resource Management Professional);
    - in Finance: ACCA, CMA (Certified Management Accountant);
    - in general management: Master of Business Administration (MBA).
7. Another 2 points for education degrees acquired at any university from the Financial Times Top 100, institutions of international recognition;
8. Another 3 points for two or more of the above-mentioned professional qualifications or business management related Doctor's degree.

Managerial experience. Managerial experience is determined according to the positions related to the management of a big and complex enterprise. Table 1 below shows that professional and managerial experience could bring 10 points maximum.

Table 1. Note yielded from experience accumulated at positions held in companies:

	Simple processes			Complex processes		
Level	Senior	Medium	Expert	Senior	Medium	Expert
Big	8	6	2	10	8	2
Average	6	4	2	10	6	2
Small	4	2	2	6	4	2

9. While points are not aggregated, the maximum value selects out of all positions held before the reference period. For example, if someone has been involved in the senior management of a big and complex company for 2 years (which yields them 10 points), and then he or she moved to the senior management of

a big company with simple processes (8 p.), they will anyway yield 10 points for the time prior the reference period.

10. The points for a position also yield if the employee has had at least 2 years of identical general experience accumulated in one or more companies.
11. If ministers or deputy ministers have no experience in business companies, they will get a maximum of 6 points; directors and heads of departments in ministries will get: 4 p.; experts: 2 p.
12. Complex processes - the company manages a combination of activities: extraction, purchase, production, wholesale, retail, services; or the company has sizeable geographical coverage: international offices or coverage of large cities in Bulgaria
13. Big company: over EUR 25 million annually; average company: over EUR 3 million annually.
14. Experience gained in the process of project management in the area of management consulting (strategy, organisation, marketing, finance except for fiscal and accountancy matters) or mergers and acquisitions will place it on the same footing with experience gained at the senior management of companies that were customers under such projects. Experience gained as a consultant under such a project (except overall responsibility for the project) will place it on the same footing with experience gained in the medium management of companies that were customers under such projects.

Specific experience. Specific experience is gained in the transformation and growth of companies in the market economy environment (either 3 p. or 5 p. are selected)

15. 3 p. at least 2 years of management experience at director or manager level directly responsible for successful transformation or notable development of revenues of a small to medium company, also includes managing of similar (such tasks and such companies) projects designed for mergers and acquisitions or management consulting
16. 5 p. at least 2 years of management experience at director or manager level directly responsible for successful transformation or notable development of revenues of a big company, also includes managing of similar (such tasks and

such companies) projects designed for mergers and acquisitions or management consulting

The total of points determines the adequacy of positions held. Adequacy is divided into three groups. Scale applicable to a Board of Directors and senior management:

1. From 0 to 19 points: inadequate;
2. From 20 to 24 points: adequate;
3. From 25 to 30 points: excellent.

The collection and the storage of data is described in Appendix 1

Data Sample

BSRH. The total number of vacancies qualified as top management in the BSRH for the period 2002-2017 is 78. The number of vacancies varies throughout the years because of the changes in the organisational structure. The organisational chart for the period 2002-2007 includes regional subunits that after the reorganisation became an integral part of the Passengers and Freight subsidiaries. In 2011, the locomotive depots were also included in the structure of the two subsidiaries. Because of all those transformations, only six top vacancies remain in the Holding: the Executive Director, the Finance Director, the HR Manager, the Recreational Units Director, and the Director of the Vocational Training Centre and the Director of the Attestation Centre. Part of the top managers have occupied the same position or different positions for several years. The total number of people that have occupied the 72 vacancies is 86. Therefore, the total number of managers researched is 86.

BSRP. The total number of vacancies qualified as top management in BSRP for the period 2007-2017 is 32. The number of vacancies varies throughout the years because of the changes in the organisational structure. The total number of people that have occupied the 32 vacancies is 69 people. Therefore, the total number of managers researched is 69.

BSRF. The total number of vacancies qualified as top management in BSRF for the period 2007-2017 is 20. The number of vacancies varies throughout the years because of the changes in the organisational structure. The total number of people that have occupied the 32 vacancies is 44. Therefore, the total number of managers studied is 44.

Adjustments to the collected data. As the changes in the management in the companies that are part of BSRG do not coincide with the annual reporting cycle, some adjustments were necessary to distinguish between the inertial and the transformation types of management. In 2009, 2013, 2014, and 2017, some overlap existed between the two management types. The main reason for such overlap was the change of the governments. Every change of the governments resulted in the appointment of new top management in BSRG. Therefore, in order to depict the trends observed in each of these years it was necessary to eliminate one of the management teams – either the inertial or the transformational.

In 2009, the first appointment of a representative of the transformational team took place at the beginning of October, and only two more managers were appointed until the end of the year. Thus wise, those people were eliminated from the statistical data for the management for the year 2009.

In the first quarter of 2013 began the process of exchange of the transformational management with representatives of the inertial management. The process ended by 1 August, and the inertial management dominated the year. The transformational management is therefore absent from the statistical data for the year 2013.

In mid-November 2014, the transformation management replaced the inertial management. However, the transformation management is not part of the statistical data for this year, because the inertial management entirely dominated the company.

In 2017, the transformation management was out of the office for three months. However, the inertial management was not included in the statistical data for this year, because the transformational management dominated the year.

The analysis performed bellow reflects the adjustments described above.

4.3 HR PROCESS AND OUTCOMES

James Baron and Michael Hannan scrutinise the path-dependent character of employment relations – “that is, the powerful and enduring effects of early events on the subsequent evolution of HRM” The Stanford Project on Emerging Companies examined the premises and conceptions held by the founders of the young emerging organisation. The founders were asked whether they had a particular “organisational model or blueprint in mind when they founded the company.” The SPEC data shows

that “the founders’ blueprints have had a profound effect on the day-to-day practices of their organisations.” The SPEC data indicate that the founders’ blueprint better predicts some present-day practices than does the blueprint espoused by the present-day CEO. Baron and Hannan emphasised that “organisations and, in particular, their HR systems exhibit strong path dependence. Early decisions and actions shape subsequent outcomes in ways that the architects of organisations may not have envisioned or adequately anticipated.”

The above concept is useful for the evaluation of the effect of the HR blueprint on the change outcomes in the BSRG’s reorganisation. At the beginning of the reorganisation, the transformation leaders developed a blueprint intuitively for the development of the transformation management as an obverse to the inertial management.

By the end of 2009, a new chairperson joined the Board of directors of the BSRG. At that time, the company was in technical bankruptcy. The goal of the new chairperson was to initiate a reorganisation aiming to rescue the company and return it to the status of a going concern. One of the initial goals was to recruit a new management team capable of initiating and implementing the reorganisation. The top management, i.e. the Board of directors, initiated the whole recruitment process.

Baron and Hannan used face-to-face interviews with the founders of the emerging companies to collect the necessary data when they investigated the organisational blueprints for success in the SPEC project. Similarly, the author of the doctoral thesis describes the HR blueprint at the beginning of the reorganisation of the BSRG, as he was the driving force in developing it.

The ideal blueprint was very close to the methodology for considering the adequacy of positions held by the members of the Board of Directors (described above). However, that was an idealistic approach. The actual process of recruitment of top managers was neither smooth nor entirely consistent. The reasons for the deviation from the idealistic approach were as follows.

First, the company was on the verge of bankruptcy, and the salaries were very unattractive.

Second, the challenge of managing a troubled company was too heavy for most potential managers. They did not want to face such big trouble.

Third, many managers did not want to work for state-owned companies. The state-owned enterprises had a bad reputation.

Fourth, the recruitment efforts were limited to the level of activity of the managers who decided to come on board.

As a result of the above, the recruitment process entailed many compromises and the managers recruited for the top management positions did not meet many of the requirements included in the ideal blueprint. However, as a whole, the application of the methodology brought about many positive results.

4.4. COMPARATIVE ANALYSIS OF THE TOP MANAGEMENT PROFILES

The analysis presents the six indices included in the methodology: (1) Average age, (2) Total professional experience, (3) Professional experience within the BSR Group of companies. (4) Market economy business knowledge, (5) Educational diversity, (6) Professional adequacy.

These six indicators construct the prototypes of the transformational vs. the inertial managements that run the company in the period 2002—2017.

1. Average age

The period between 2002 and 2009 in BSRG, and between 2007 and 2009 in BSRP and BSRF was the time of significant increase in operating losses and a tremendous increase in the total indebtedness. During that time, the inertial management managed the company, which was why the enterprise is on the verge of bankruptcy by 2009. The change began in 2010 when the transformation management launched a rescue plan and initiated the first reorganisation.

Holding BSRH. The average age of the top managers for the period 2002-2017 is 47.9. The average age for the period 2002-2009 is 49.7. The average age for the period 2010-2017 goes down to 45.2 years (see Fig. 3). The trend for the period 2002-2017 clearly shows that the age of the top managers goes down when the transformational management dominates the company. Important is the fact that in 2010 when the reorganisation begins the average age of the top managers goes sharply down from 53 years in 2009 to 42 years in 2010. However, the average age goes sharply up to 48 and 49 in 2013 and 2014, respectively, when the inertial management again runs

the company. Later on, in 2015, the average age goes down with the onset of the second term of the transformational management and begins to increase with the ageing of the managers.

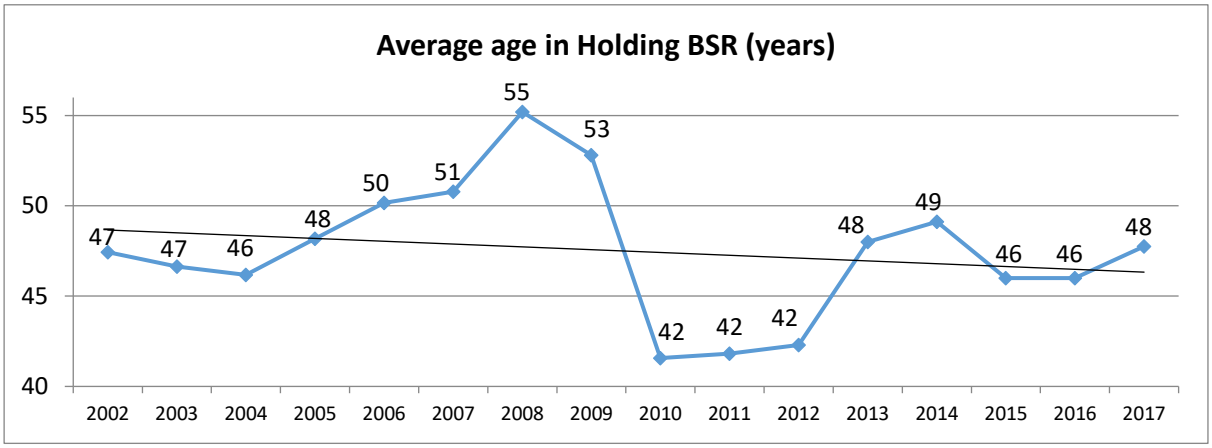


Fig. 3 Average age in BSRH

BSRP. The average age of the top managers for the period 2007—2017 is 49.7 years. The average age for the period 2007—2009 is 55 years. The average age for the period 2010—2017 goes down to 49 years. The trend for the period 2002—2017 clearly shows that the age of the top managers goes down when the transformational management runs the company (see Fig. 4). Noteworthy is the fact that after 2010 when the reorganisation begins the average age of the top managers goes steadily down from 54 in 2009 to 46 in 2015. Later on, in 2016, the average age begins to increase at a tempo close to the normal process of ageing.

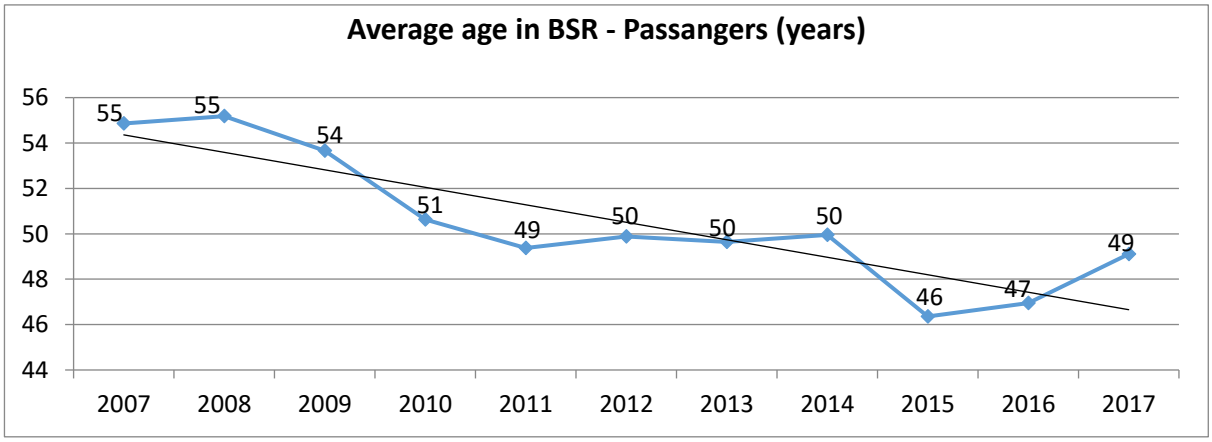


Fig. 4 Average age in BSRP

BSRF. The average age of the top managers for the period 2007—2017 is 48.8. The average age for the period 2007—2009 is 48. The average age for the period 2010—2017 goes slightly up to 49. Unlike in the BSRH and the BSRP, the trend here is increasing – the average age of the managers goes slowly up but lags behind the logical biological increase of the average age. However, in 2010 and 2011 when the transformational management runs the company, the average age remains under the increasing trend. In 2013 and 2014, when the inertial management manages the company again, the average age of the top managers goes sharply up above the trend. Later on, with the onset of the second term of the transformational management, the average age drops down from 52 years in 2014 to 48 years in 2017 and remains below the trend line (see Fig. 5). The increasing trend line is entirely due to the average age of the inertial management.

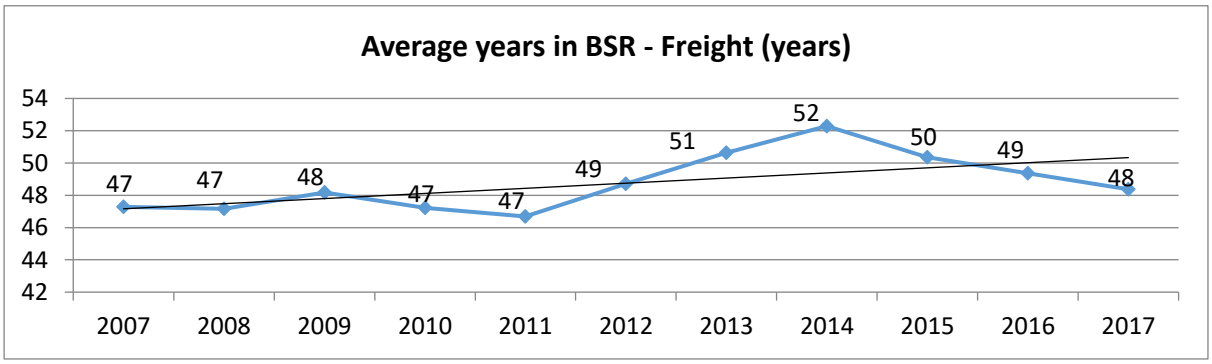


Fig. 5 The average age in BSRF

Conclusion. There is a clear trend in all the three companies: BSRH, BSRP and BSRF. At the beginning of the reorganisation, the average age of the transformational managers is lower than the average age of the inertial managers. The years 2013 and 2014 are an essential indication of the tendencies related to the average age of the top managers and the prototype of the inertial management in each of the three companies. In 2013, the government changed, and the transformation management was replaced with the same people who were part of the inertial management. They managed the company almost until the end of 2014. The Figures 1,2,3 above show that in 2014 the average age of the top managers in all the three companies increased in accordance with one of the typical features of the inertial management – higher age compared to the age of the transformational management.

Average age conclusion: transformational management tend to be younger than the inertial management.

2. Total professional experience

BSRH. The total average professional experience of the top managers for the period 2002-2017 is 22.9 years. For the 2002-2009 period, it is 25 years. In addition, for the period 2010-2017 it goes down to 19.6 years. The trend for the period 2002-2017 clearly shows that the average professional experience of the top managers goes down when the transformational management runs the company. Notable is the fact that in 2010 when the reorganisation begins, it goes sharply down from 28 years in 2009 to 16 years in 2012 (well below the trend see Fig. 6). However, the total average professional experience goes sharply up to 23 years in 2013 and 2014, respectively, when the inertial management runs the company again. In 2015, i.e. when the transformation management is reinstated, the average age goes down to 20 years. Later on, the total average professional experience increases with time.

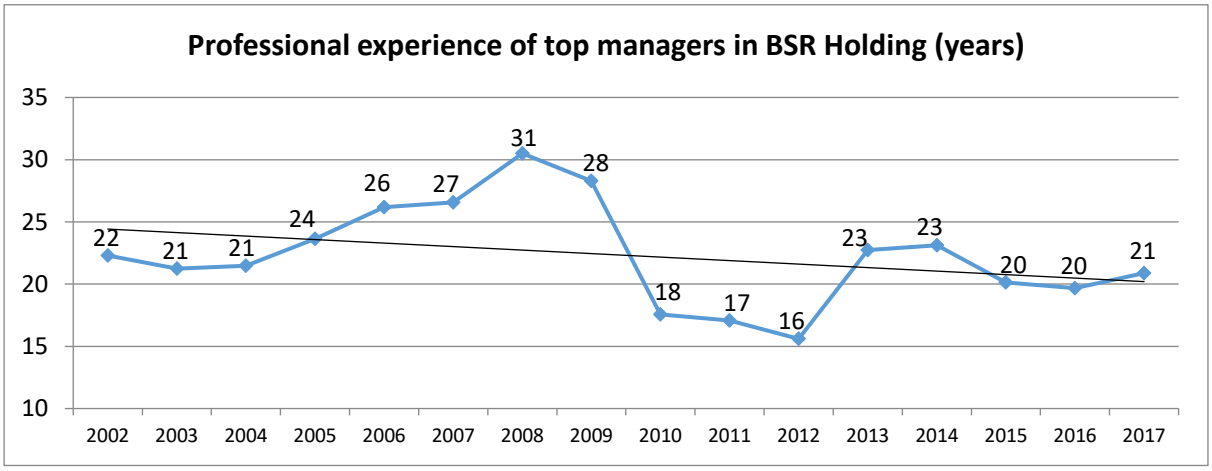


Fig. 6 Professional experience of top managers in BSRH

BSRP. The total average professional experience for the period 2007-2017 is 26 years. For the 2007-2009 period, it is 31 years. Subsequently, for the period 2010-2017 it goes down to 25 years. The trend for the period 2007-2017 clearly shows that the total average professional experience of the top managers goes down when the transformational management runs the company (see Fig. 7). Remarkable is the fact that in 2010, i.e. when the reorganisation begins, it goes steadily down from 30 years in 2009 to 23 years in 2015. However, the total average professional experience goes up to 27 years in 2014, when the inertial management runs the company again. In 2015, when the transformation management is reinstated, the average age goes sharply down to 23 years. Later on, the total average professional experience begins to increase with time.

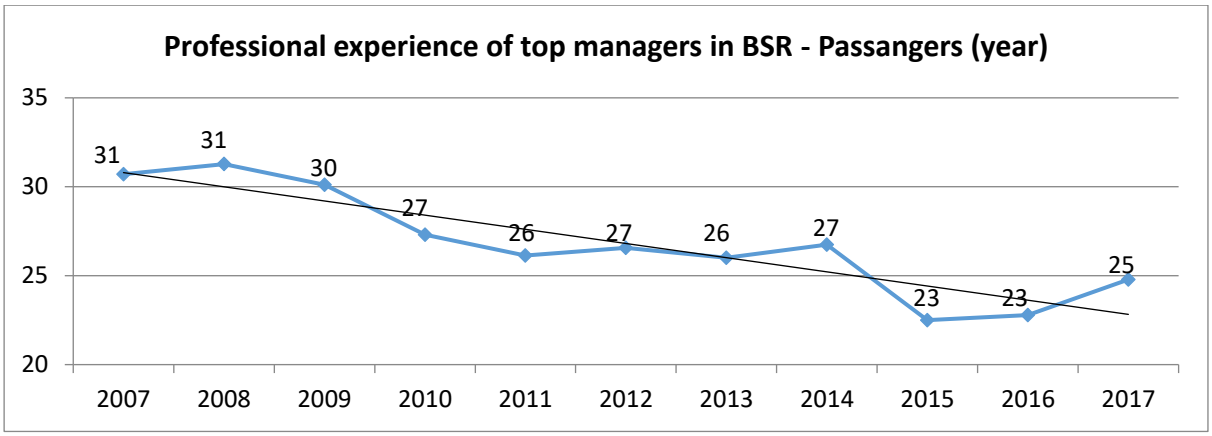


Fig. 7 Professional experience of top managers in BSRP

BSRF. The total average professional experience for the period 2007-2017 is 25 years. For the 2007-2009 period, it is 25 years. Subsequently, for the period 2010-2017 it is 25.4 years. Unlike in BSRH and BSRP, the trend here is increasing: the total average professional experience goes slowly up, but behind the relevant passage of time (see Fig. 8). Noteworthy is the fact that after 2010, i.e. when the reorganisation begins, it goes down from 26 years in 2009 to 23 years in 2011. However, the total average professional experience goes up to 28 years in 2013 and 2014, respectively, when the inertial management again runs the company. In 2015 when the transformation management is reinstated, the average age goes sharply down to 24 years. Later on, the total average professional experience begins to increase with time. However, the average professional experience of the transformational management remains under the trend line. The increasing trend line is entirely due to the average age of the inertial management.

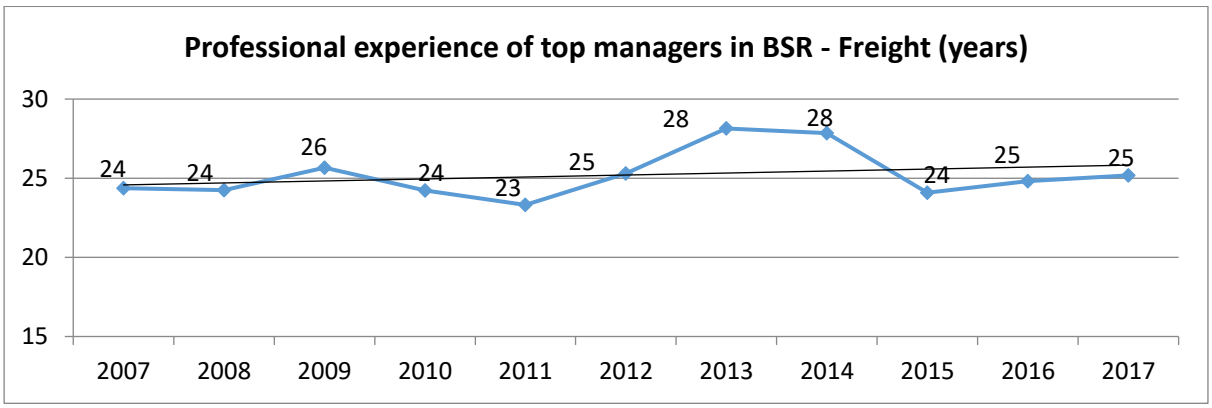


Fig. 8 Professional experience of top managers in BSRF

Conclusion. There is a clear trend in all the three companies the BSRH, the BSRP, and the BSRF that at the beginning of the reorganisations the total average professional experience of the transformational managers is lower than the total average professional experience of the inertial managers. The years 2013 and 2014 are an essential indication of the tendencies related to the average professional experience of the top managers and the prototype of the inertial management in each of the three companies. In 2013, the government changed, and the same people who were part of the inertial management replaced the transformation management. They managed the company almost until the end of 2014. The Figures 4, 5 and 6 above show that in 2014 the average age of the top managers in all the three companies increased in accordance with one of the typical features of the inertial management – higher total average professional experience compared to the experience of the transformational management.

Total average professional experience conclusion: the transformational managers tend to have fewer years of professional experience than the inertial managers do.

3. Professional experience within BSRG

BSRH. The average professional experience of the top managers in BSRG for the period 2002-2017 is 15.3 years. For the 2002-2009 period, it is 18.3 years. Subsequently, for the period 2010-2017, it is 8.3 years. The trend for the period 2002-2017 clearly shows that the average professional experience of the top managers in BSRG goes down when the transformational management runs the company. Notable is the fact that in 2010, i.e. when the reorganisation begins, it goes sharply down from 20 years in 2009 to 4 years in 2012 (well below the trend see Fig. 9). However, the total average professional experience in BSRG goes up to 12 and 13 years in 2013 and 2014, respectively, when the inertial management runs the company again. In 2015, when the transformation management is reinstated the average professional experience in BSRG goes sharply down to 7 years. Later on, the average professional experience in BSRG begins to increase with the typical passage of time.

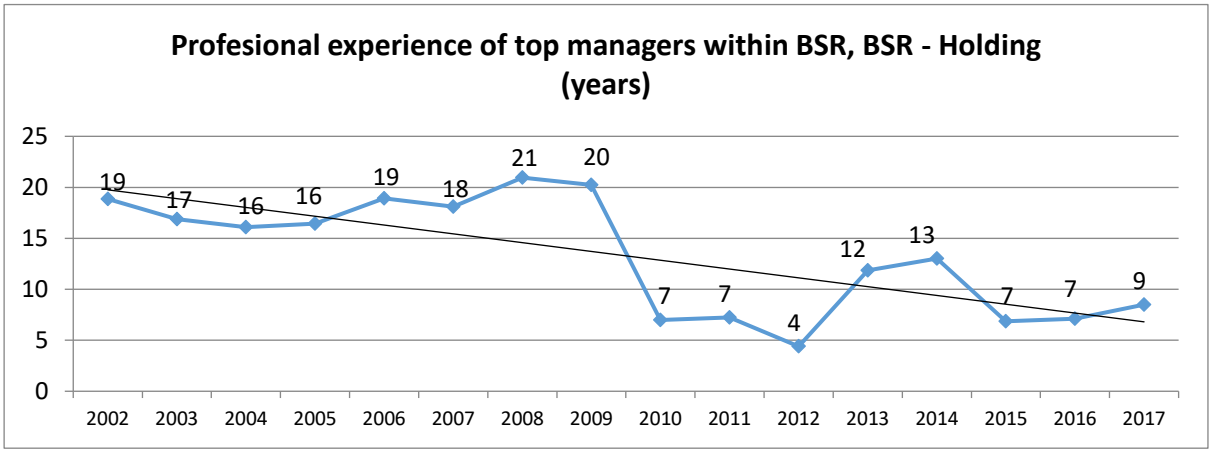


Fig. 9 Professional experience of top managers within BSRG in BSRH

BSRP. The average professional experience of the top managers within BSRP for the period 2007-2017 is 20.9 years. For the 2007-2009 period, it is 29 years. Subsequently, for the period 2010-2017 it goes down to 20 years. The trend for the period 2007-2017 clearly shows that the average professional experience of the top managers within BSRG goes down when the transformational management runs the company (see Fig. 10). Noteworthy is the fact that in 2010, when the reorganisation begins, it goes sharply down from 29 years in 2009 to 18 years in 2011. However, the total average professional experience within BSRG goes up to 23 and 22 years in 2013 and 2014, respectively, when the inertial management again runs the company. In 2015 when the transformation management returns to the office, the average professional experience within BSRG goes sharply down to 16 years. Later on, the total average professional experience begins to increase with time.

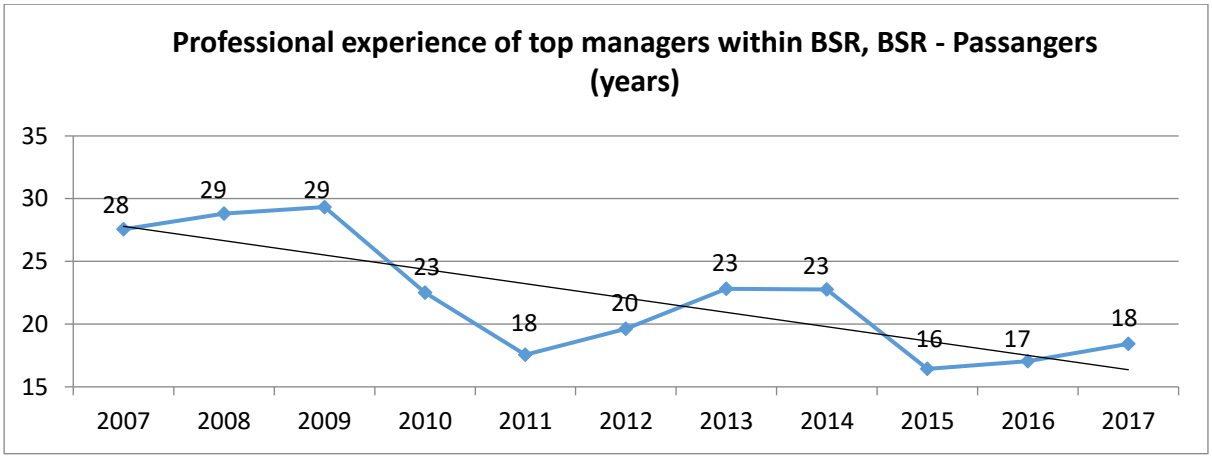


Fig. 10 Professional experience of top managers within BSRG in BSRP

BSRF. The average professional experience of the top managers within BSRF is 20.5 years. For the 2007-2009 period, it is 23 years. Subsequently, for the period 2010-2017 it goes down to 19 years. The trend for the period 2007-2017 clearly shows that the average professional experience of the top managers in BSRG goes down when the transformational management runs the company (see Fig. 11). Remarkable is the fact that in 2010 when the reorganisation begins, it goes sharply down from 24 years in 2009 to 18 years in 2011. However, the total average professional experience in BSRG goes up to 25 years in 2014, when the inertial management again runs the company. In 2015 when the transformation management returns to the office, the average professional experience in BSRG goes sharply down to 16 years. Later on, the total average professional experience begins to increase.

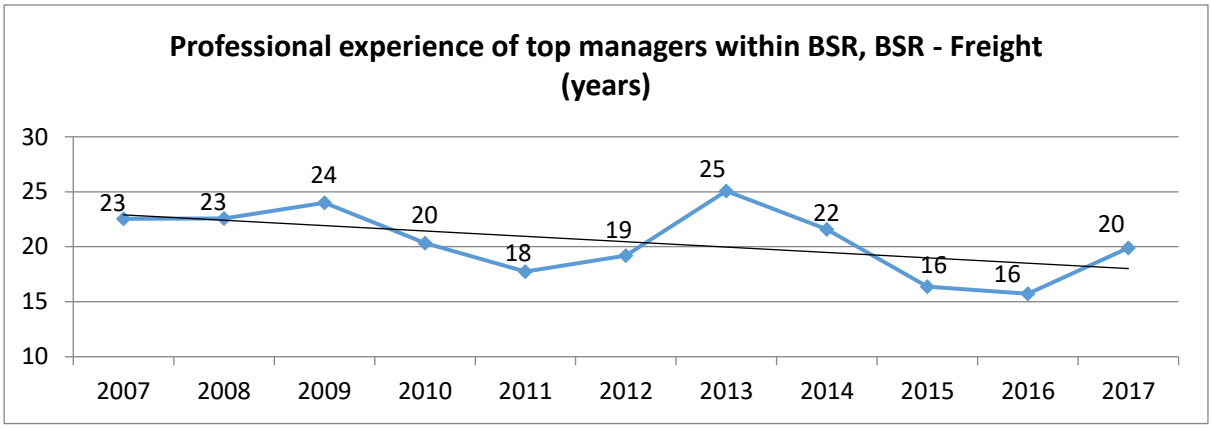


Fig. 11 Professional experience of top managers within BSRG in BSRF

Conclusion. There is a clear trend in all the three companies, BSRH, BSRP and BSRF, that at the beginning of the reorganisations the total average professional experience of the transformational managers within BSRG is lower than the professional experience of the inertial managers within BSRG. The years of 2013 and 2014 are an essential indication of the tendencies related to the average professional experience of the top managers in BSRG and the prototype of the inertial management in each of the three companies. In 2013, the government changed, and the transformation management was replaced with the same people who were part of the inertial management. They managed the company almost until the end of 2014. The Figures 7, 8 and 9 above show that in 2014 the average professional experience of the top managers in all the three companies increased in accordance with one of the typical features of the inertial management – higher total average professional

experience within BSRG compared to the experience of the transformational management.

Total average professional experience in BSR conclusion: the transformational managers tend to have fewer years of professional experience within the company than the inertial managers do.

4. Market economy business knowledge

Holding BSR. The total number of managers who graduated before the year 1990 as a percentage of the total number of managers varies between 6% and 90%. For the 2002-2009 period, it varies between 5% and 14%. This indicates that managers running the company at that time graduated predominately before the year 1990. For the period 2010-2017, the percentage of graduates after 1990 varies between 33% and 90%, with 90% in 2012. However, it goes down to 33% in 2013 and 45% in 2014 respectively, when the inertial management runs the company again. In 2015 when the transformation management is reinstated, the percentage goes sharply up to 75%. The trend for the period 2007-2017 clearly shows that the percentage of graduates after 1990 goes up when the transformational management runs the company (see Fig. 12). This increase of the managers who graduated after 1990 indicates that more managers are educated in the logic of business management in market economy conditions when the transformational management dominates the company.

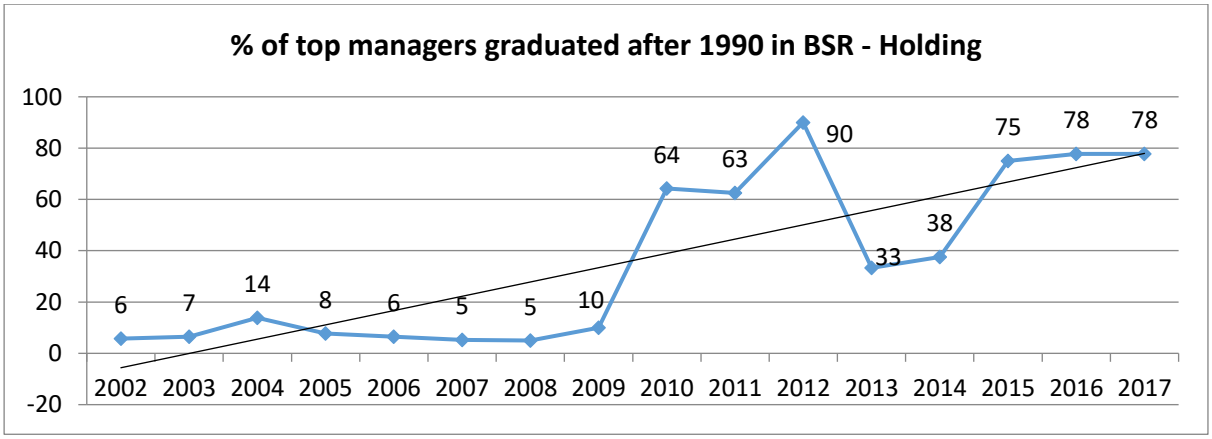


Fig. 12 % of top managers graduated after 1990 in BSRH

BSRP. The total number of managers who graduated before the year 1990 as a percentage of the total number of managers varies between 29% and 71%. For the 2007-2009 period, it varies between 22% and 36%. This indicates that managers

running the company at that time graduated predominately before the year 1990. For the period 2010-2017, the percentage goes up to 71% in 2015 and declines to 68% by the end of the period. However, the percentage of graduates after 1990 stagnates in 2014, when the inertial management runs the company again. In 2015 when the transformation management is reinstated, the percentage goes sharply up from 50% to 71%. The trend for the period 2007—2017 clearly shows that the percentage of graduates after 1990 goes up when transformational management runs the company (see Fig. 13).

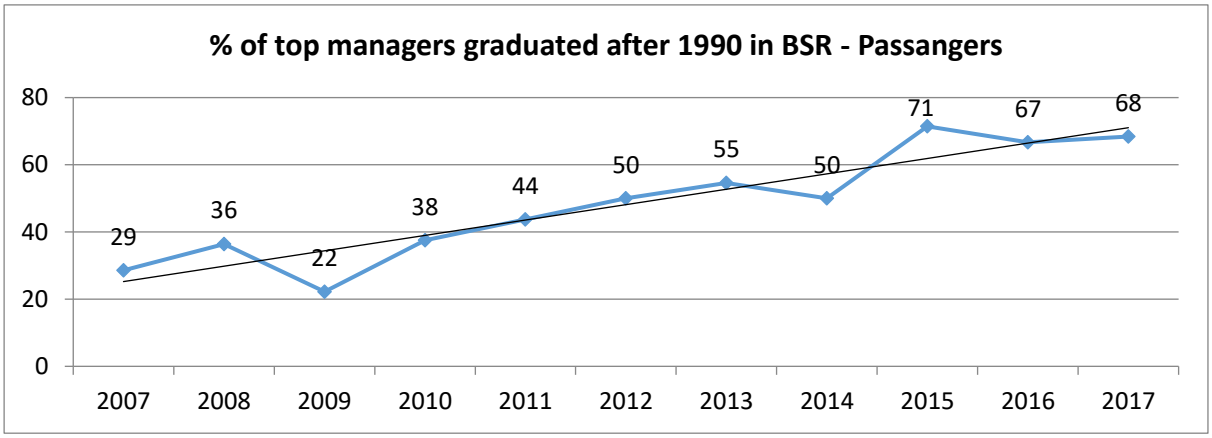


Fig. 13 % of top managers graduated after 1990 in BSRP

BSRF. The total number of managers who graduated before the year 1990 as a percentage of the total number of managers varies between 33% and 64%. For the 2007-2009 period, it varies between 36% and 42%. This indicates that managers running the company at that time graduated predominately before the year 1990. For the period 2010-2017, it increased to 64%. The trend for the period 2007-2017 clearly shows that the percentage of graduates after 1990 goes up when the transformational management runs the company (see Fig. 14).

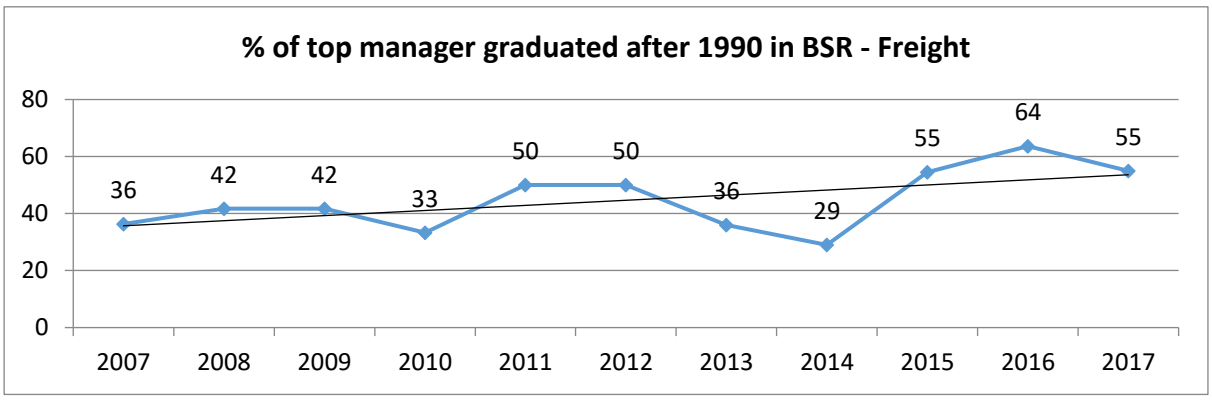


Fig. 14 % of top managers graduated after 1990 in BSRF

Conclusion. There is a clear trend in all the three companies, BSRH, BSRP and BSRF. The percentage of post-1990 graduates is higher when the transformational management dominates the company compared to the percentage of graduates after 1990 when the inertial managers run the company. The years 2013 and 2014 are an essential indication of the tendencies related to the graduates and the prototype of the inertial management in each of the three companies. In 2013, the government changed, and the transformation management was replaced with the same people who were part of the inertial management. They managed the company almost until the end of 2014. The Figures 10, 11 and 12 above show that in 2014 the percentage of graduates after 1990 in all the three companies decreases in accordance with one of the typical features of the inertial management – fewer managers educated in the logic of business management in market economy conditions.

Percentage of educated in market economy conclusion: the transformational managers tend to have more graduates educated in the logic of business management in market economy conditions compared to the inertial managers.

5. Educational Diversity

BSRH. The percentage of diversity of Universities calculated as the number of Universities divided by the total number of managers year by year varies between 105% and 250 %. The percentage for the period 2002-2009 is between 105% и 120%. The percentage of diversity of Universities for the period 2010-2017 varies between 113% and 220%. However, the percentage of diversity goes down to 113% in 2013 and 119% in 2014 respectively, when the inertial management again runs the company. In 2015 when the transformation management is reinstated, the percentage goes sharply up to 250%. The trend for the period 2007-2017 clearly shows that the percentage of diversity goes up when transformational management runs the company (see Fig. 15). In 2015 when the percentage is 250%, eight managers have graduated from 20 different Universities in Bulgaria and abroad. This increase of diversity indicates that managers have a broader knowledge in the logic of business management in market economy conditions when the transformational management runs the company.

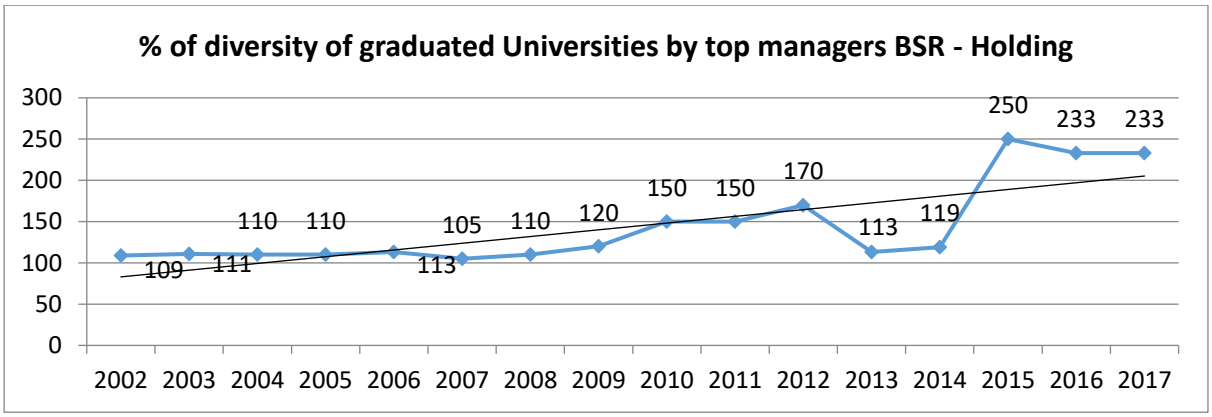


Fig. 15 % of diversity of graduated Universities by top managers BSRH

BSRP. The percentage of diversity of Universities varies between 143% and 111%. For the 2002-2009 period, it is between 143% and 111%, and it declines year by year. The percentage varies between 119% and 138% for the period 2010-2017 (see Fig. 16). The percentage of diversity goes up after 2010 when the transformational management runs the company. However, the percentage of diversity goes down to 127% in 2013 and 130% in 2014 respectively, when the inertial management runs the company again. In 2015 when the transformation management is reinstated, the percentage goes up to 136%. In 2016, the percentage goes down because some transformational managers left the company.

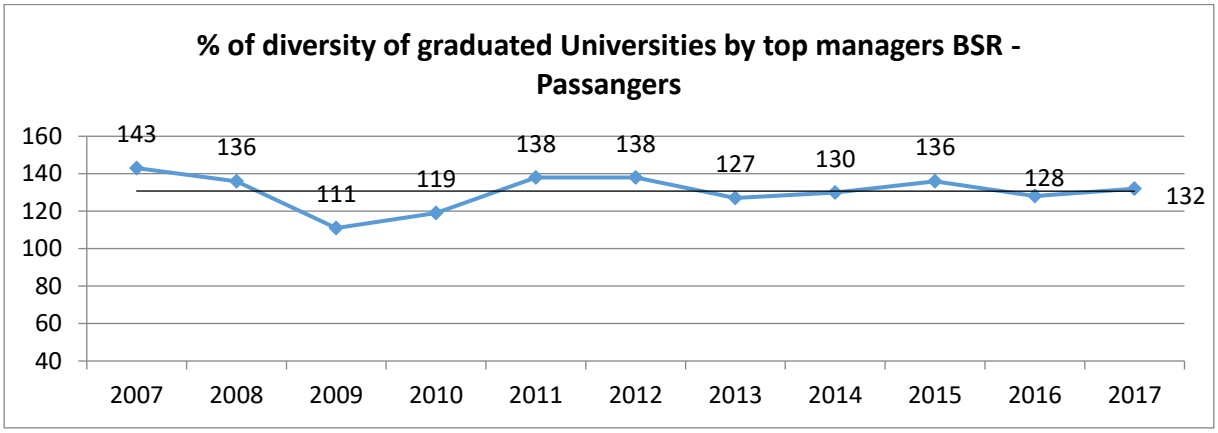


Fig. 16 % of the diversity of graduated Universities by top managers BSRP

BSRF. The percentage of diversity of Universities varies between 107% and 120%. For the 2002-2009 period, it is between 108% and 109%. The percentage of diversity varies between 107% and 120% for the period 2010-2017. However, the percentage of diversity goes down to 107% in 2013 and in 2014, when the inertial management runs the company again. In 2015 when the transformation management is reinstated,

the percentage goes up to 118%. The trend line shows clearly that the percentage of educational diversity goes up when the transformational management dominates the company (see Fig. 17).

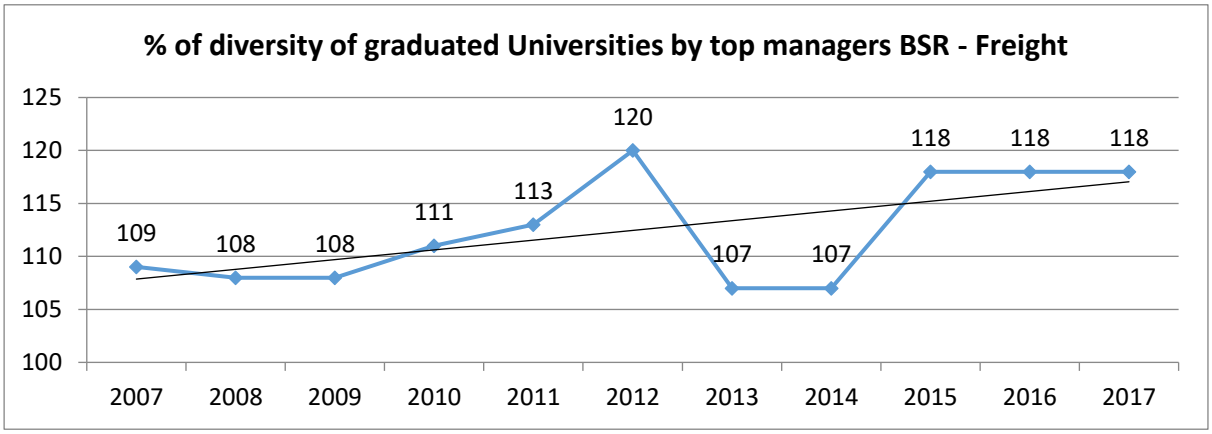


Fig. 17 % of the diversity of graduated Universities by top managers BSRF

Conclusion. There is a clear trend in all the three companies, BSRH, BSRP and BSRF, that the percentage of educational diversity is higher when the transformational management dominates the company. The years 2013 and 2014 are an essential indication of the tendencies related to the diversity and the prototype of the inertial management in each of the three companies. In 2013, the government changed, and the same people who were part of the inertial management replaced the transformation management. They managed the company almost until the end of 2014. The Figures 15, 16, 17 above show that in 2014 the percentage of diversity in all three companies decreases in accordance with one of the typical features of the inertial management – less diversity in education.

Percentage educational diversity conclusion: transformational managers tend to have higher educational diversity compared to inertial managers.

6. Professional adequacy

BSRH. The percentage of adequacy of managers to occupied top positions is predominantly 0% for the period 2002-2009. For the period 2010-2017, the percentage of adequacy goes up when the transformational management manages the company. It is 28% in 2010 and goes up to 60% in 2012. However, in 2013 and 2014, when the inertial management runs the company professional adequacy goes down to 7% and 13% respectively. In 2015, i.e. when the transformation management is reinstated, the percentage goes sharply up from 13% to 88%. The trend line shows clearly that the

professional adequacy of the transformational managers is incomparably higher than that of the inertial management (see Fig. 18).

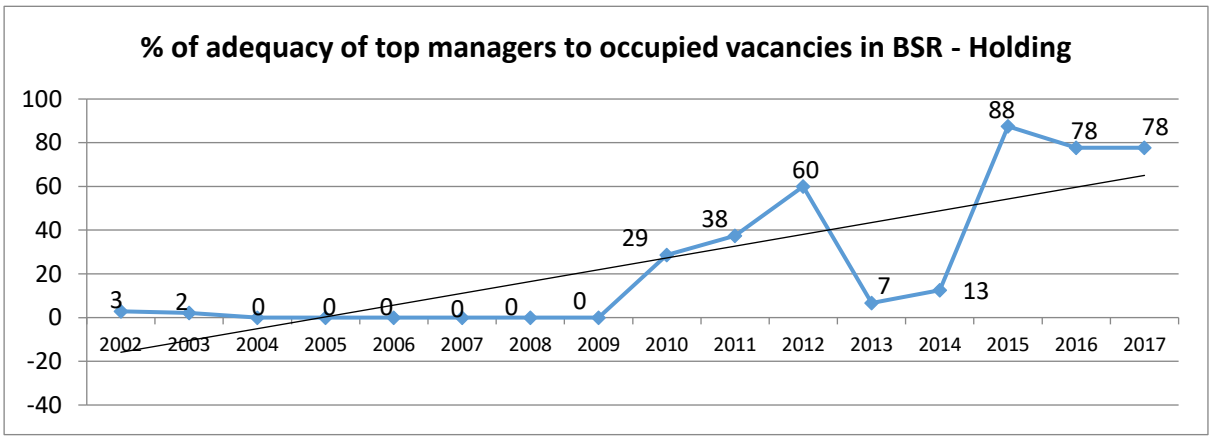


Fig. 18 % of adequacy of top managers to occupied vacancies in BSRH

BSRP. The percentage of adequacy to occupied positions by the top managers is 0% for the period 2007-2009. For the 2010-2017 period, the percentage of adequacy goes up when the transformational management runs the company. It is 6% in 2011 and goes up to 23% in 2016 (see Fig. 19).

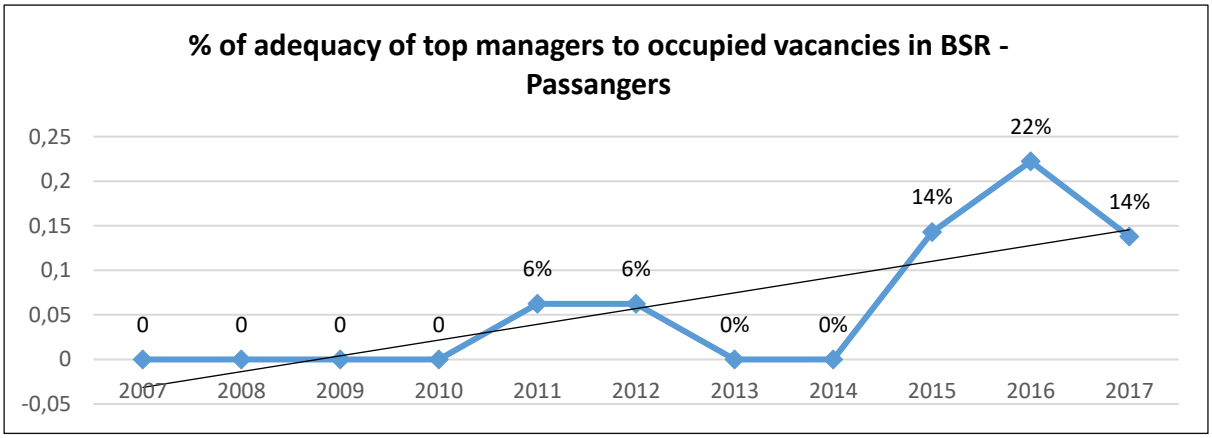


Fig. 19 % of the adequacy of top managers to occupied vacancies in BSRP

BSRF. The percentage of adequacy to positions occupied by top managers is 0% for the period 2007-2009. For the period 2010-2017, the percentage of adequacy goes up when the transformational management runs the company. In 2011, it was 6 % and went up to 27% in 2016 and 2017. However, in 2014, when the inertial management runs the company professional adequacy goes down to 7% (see Fig. 20).

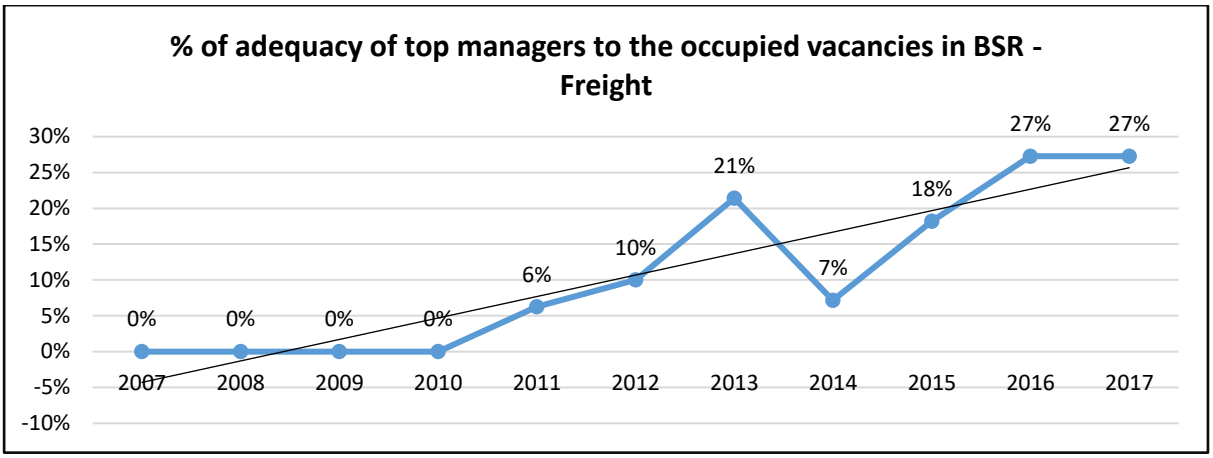


Fig. 20 % of adequacy of top managers to occupied vacancies in BSRF

Conclusion. There is a clear trend in all the three companies BSRH, BSRP and BSRF, that the percentage of adequacy to occupied positions is incomparably higher when the transformational management dominates the company than when the inertial managers run the company. The years 2013 and 2014 are an important indication of the tendencies related to the professional adequacy and the prototype of the inertial management in each of the three companies. In 2013, the government changed, and the transformation management was replaced with the same people who were part of the inertial management. They managed the company almost until the end of 2014. The Figures 16, 17, 18 above show that in 2014 the percentage of adequacy in all three companies decreases in accordance with one of the typical features of the inertial management – inadequacy to occupied positions compared to transformational managers.

Professional adequacy conclusion: the transformational managers are incomparably more adequate to the occupied vacancies than the inertial managers are.

7. Grouping all the factors together

BSRH. Figure 21 below shows that the indicators for the professional experience of the transformational management in BSRH are below the general trend for the period 2002-2017.

Figure 22 below shows that when it comes to professional competence, transformational management's level is above the general trend for the period 2002-2017. The conclusions for the inertial management are just opposite to those valid for the transformational management: the level of professional experience is above the

trend line while the competencies are below the general trend for the period 2002-2017.

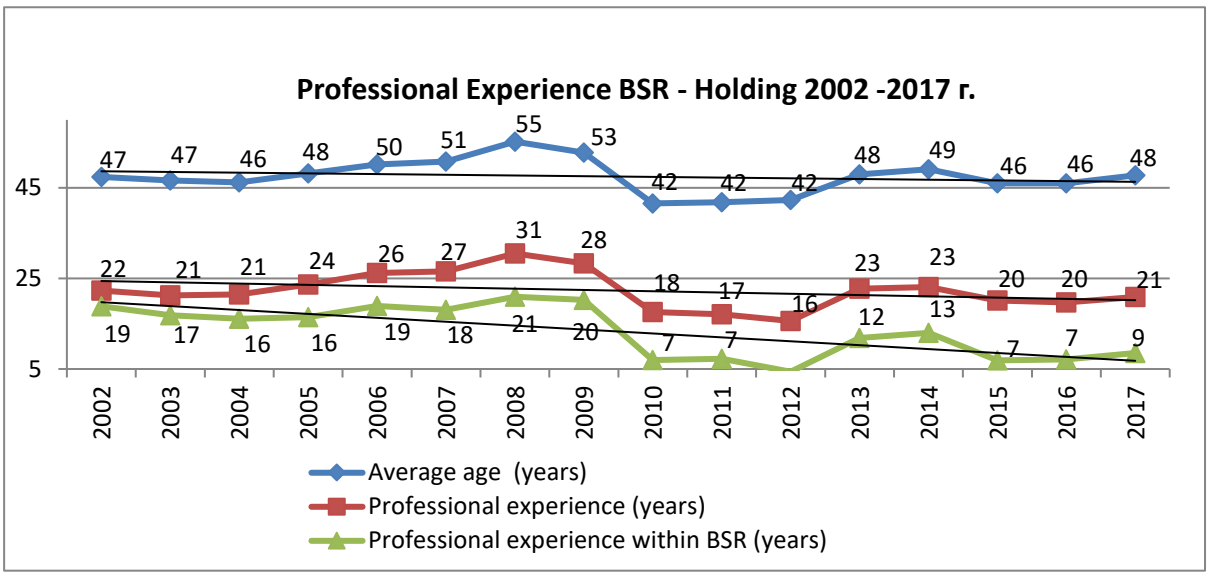


Fig. 21 Professional experience BSRH 2002 - 2017

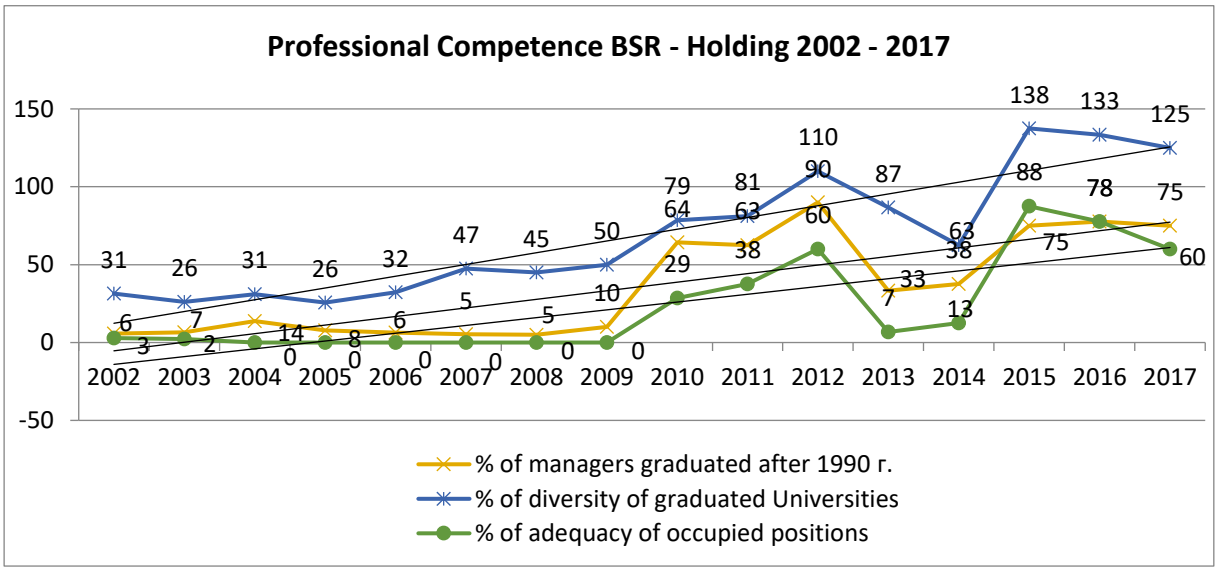


Fig. 22 Professional competence BSRH 2002 - 2017

BSRP. Figure 23 below shows that the indicators for the professional experience of the transformational management in BSRP are below the general trend for the 2002-2017 period. Figure 24 below shows that when it comes to the professional competence, the level of the transformational management matches or is above the general trend for the period 2002-2007.

The conclusions for the inertial management are just the opposite of those valid for the transformational management: the level of professional experience is above the trend line while the competencies are below the general trend for the period 2002-2007.

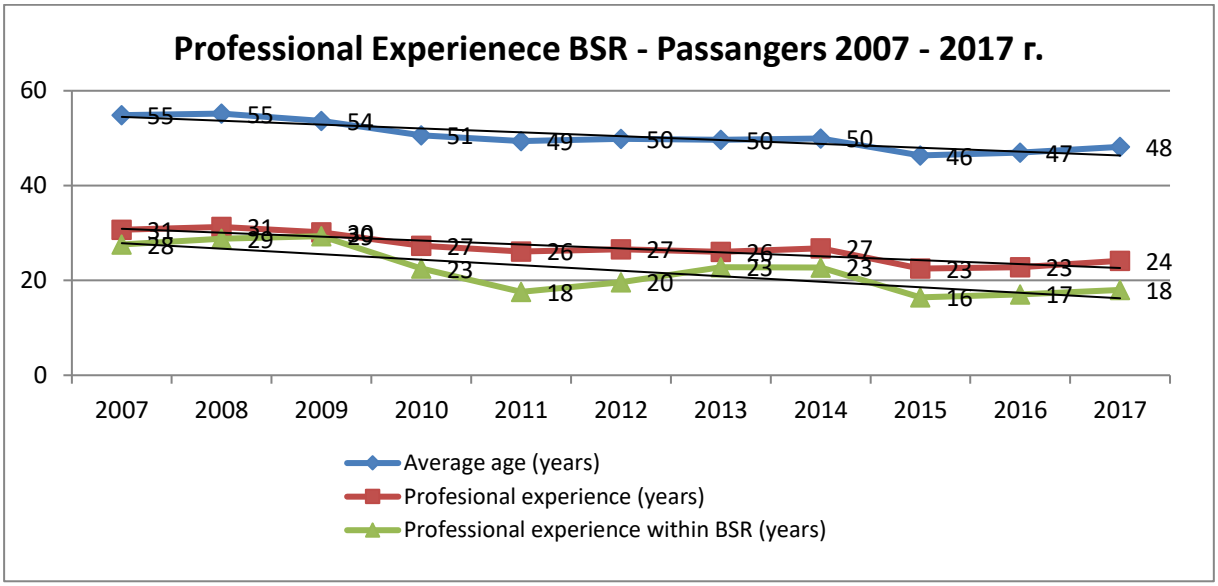


Fig. 23 Professional experience BSRP 2007 – 2017

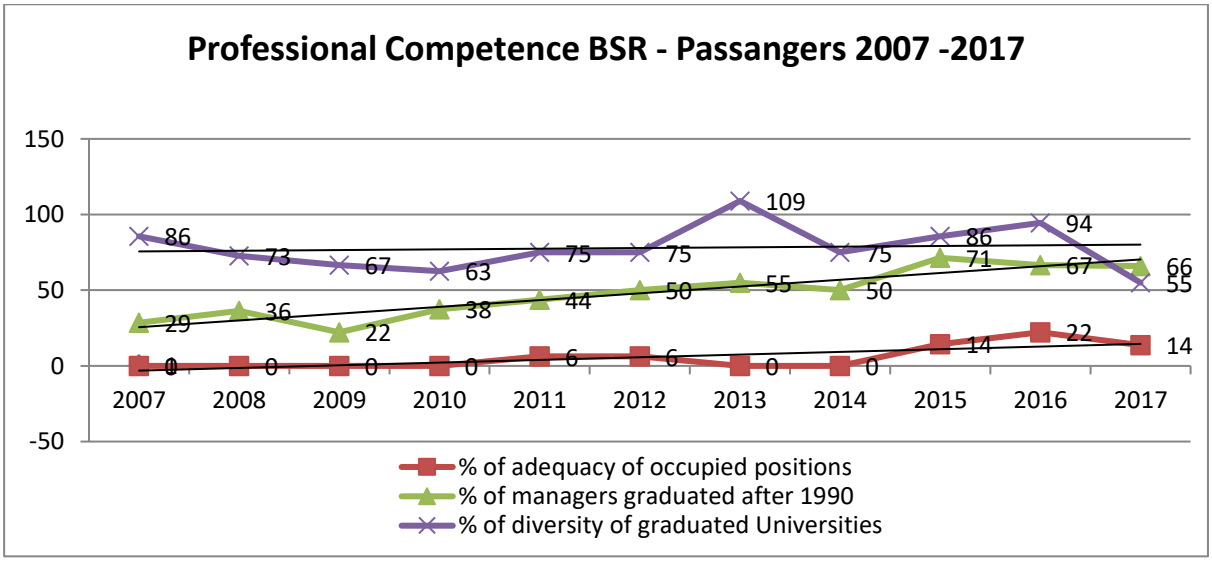


Fig. 24 Professional competence BSRP 2007 - 2017

BSRF. Figure 25 below shows that the indicators for the professional experience of the transformational management in BSRF are below the general trend for the 2007-2017 period. Figure 26 shows that when it comes to professional competence, the level of the transformational management is on or above the general trend for the 2007-2017 period. The conclusions for the inertial management are just the opposite of those for the transformational management: the level of professional experience is

above the trend line while the competencies are below the general trend for the period 2007-2017.

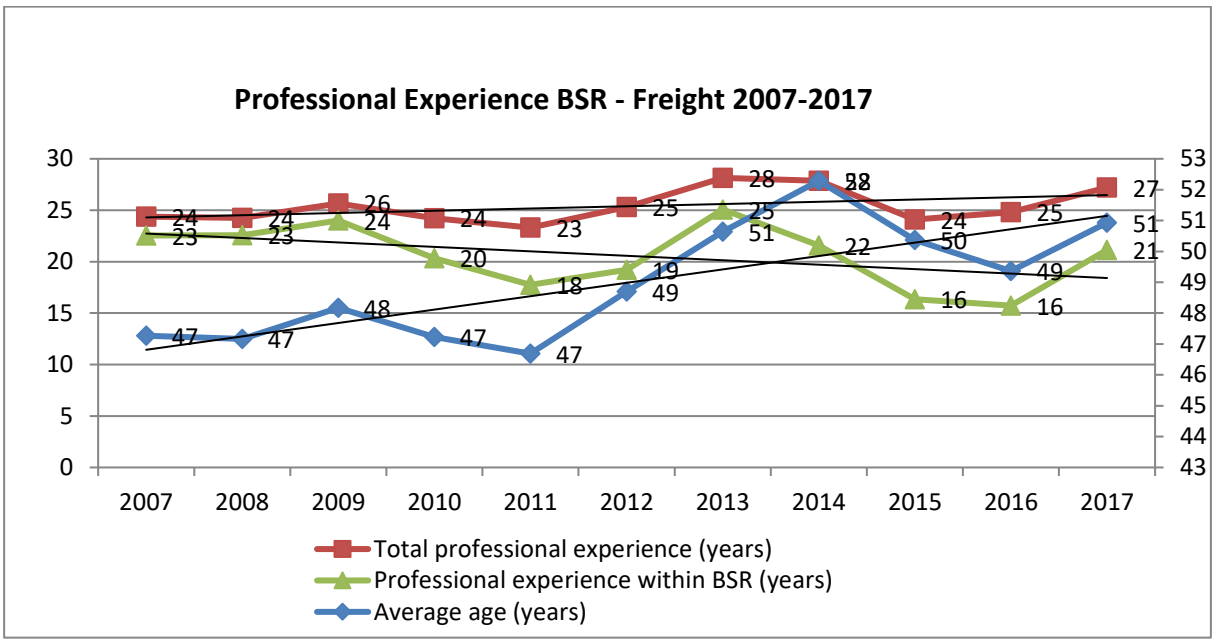


Fig. 25 Professional experience BSRF 2007 - 2017

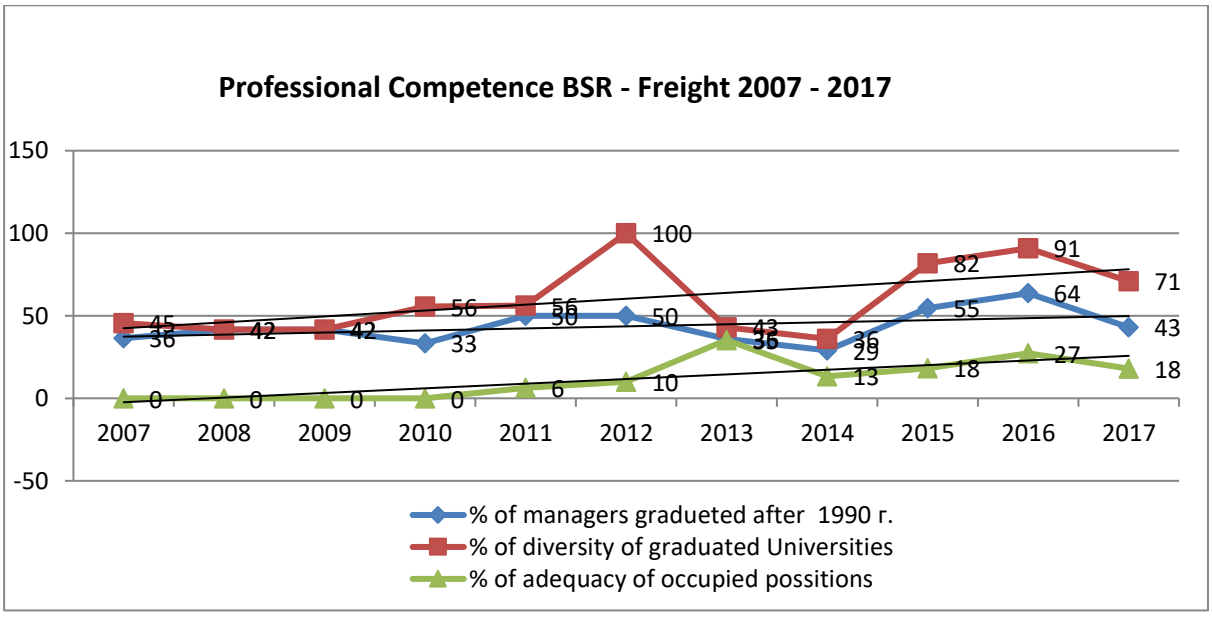


Fig. 26 Professional competence BSRF 2007 - 2017

Conclusion. The average age, total work experience, and experience in BSRG have a perfect convergence. The same is true for the percentage of graduates who have acquired their education after 1990, the percentage of variety of completed HEIs, the percentage of adequacy of positions held. The transformational managers have less professional experience and more competency than the inertial managers do.

4.5. COMPARATIVE ANALYSIS OF TOP MANAGEMENT PERFORMANCE

The first two parts of the study aim to compare the performance of BSRG, BSRF and BSRP under the administration of inertial management juxtaposed to that of transformational management. The third part aims to establish whether a significant difference exists between the inertial and the transformational management performance indicators.

Performance at the generation of the crisis

The three Fig. 27, 28 and 29 below present the performance of the transformational and the inertial management for the period 2002-2018. The red colour presents company's performance under the inertial management, and the blue colour presents company's performance under the transformational management.

All three Fig. 27, 28 and 29 demonstrate that the performance of BSRG, BSRF and BSRP worsens for each year from the year 2002 or 2007 to the year 2009. In BSRG, the profit of EUR 23 mln goes down to a loss of 34 mln. In BSRF, the loss of EUR 4 mln goes down to a loss of EUR 13 mln. In BSRP, the net profit goes from zero to EUR 6 mln.

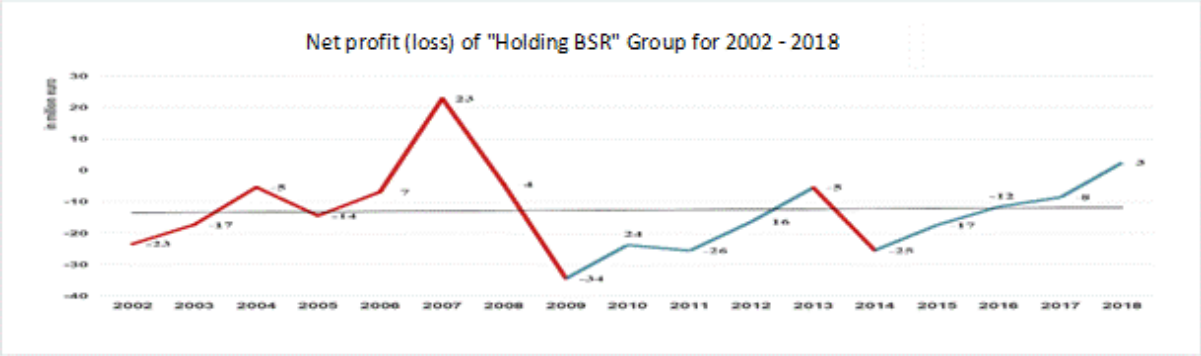


Fig. 27 Net profit (loss) of BSRG 2002 – 2018

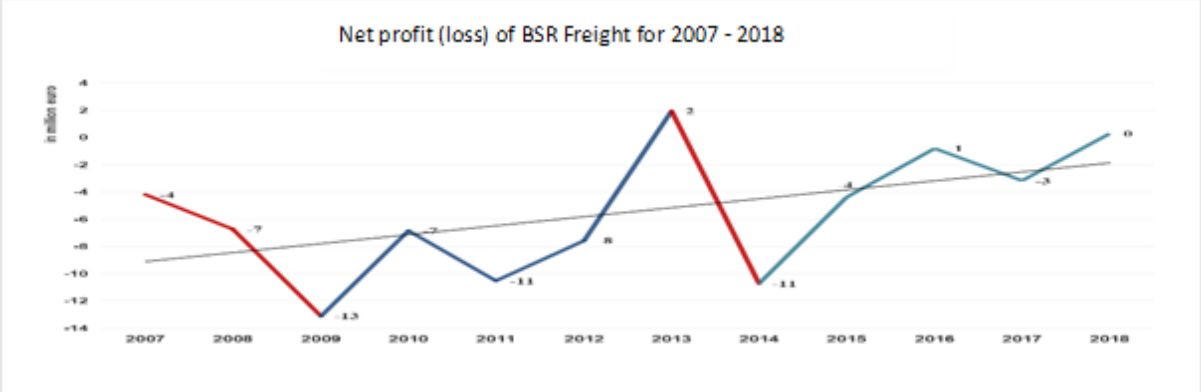


Fig. 28 Net profit (loss) BSRF 2007 - 2018

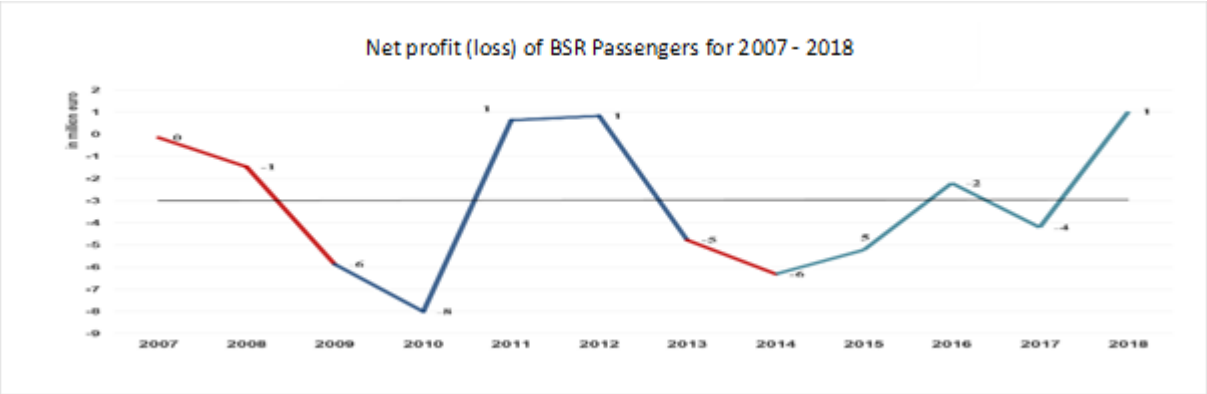


Fig. 29 Net profit (loss) of BSRP 2007 - 2018

Conclusion. The inertial management in the three companies either cannot anticipate the signals from the environment or cannot adapt the companies to the environmental shifts.

Performance at the time of reorganisation

Let us now have a look at the period of reorganisation between 2010 and 2018. Fig. 30 below shows the performance of transformational management and inertial management for the period 2009-2018. The loss of BSRG for 2009 is EUR 34 mln. However, the financial result for 2018 is a profit of EUR 3 mln. The trend line shows that the financial result steadily improves for the entire period when the transformational management runs the company. The only exception is 2014, which is when the inertial management manages the company, and the financial result goes from a loss of EUR 5 mln down to a loss of EUR 25 mln.

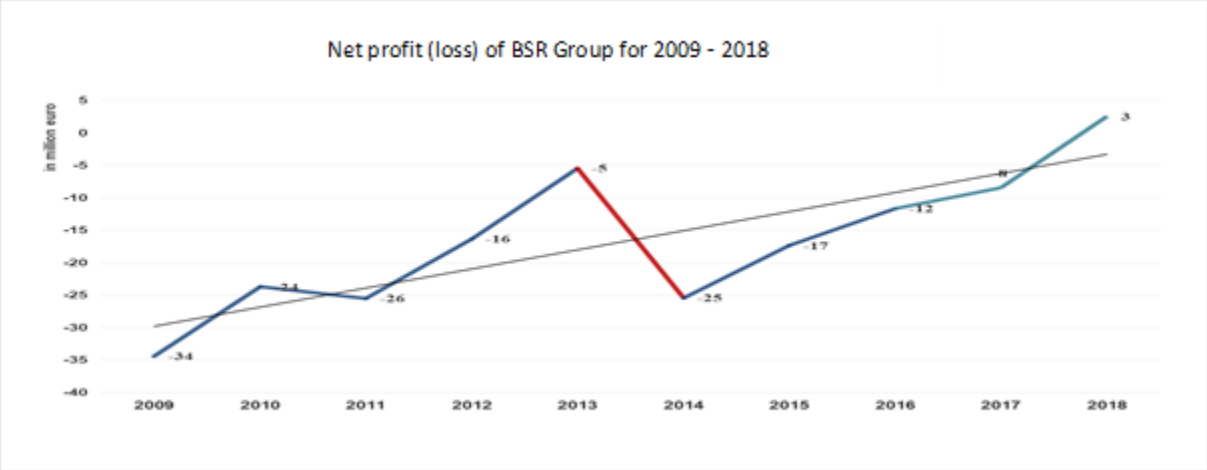


Fig. 30 Net profit (loss) BSRG 2009 - 2018

The performance of the transformational management in BSRF (see Fig. 31 below) is very similar. The trend line goes upwards from a loss of EUR 13 mln in 2009 to a profit of almost EUR 1 mln in 2018. The only exception with a very sharp increase of the loss is in 2014, when the inertial management manages the company, and the financial result plunges from a loss of 2 mln down to a loss of EUR 11 mln.

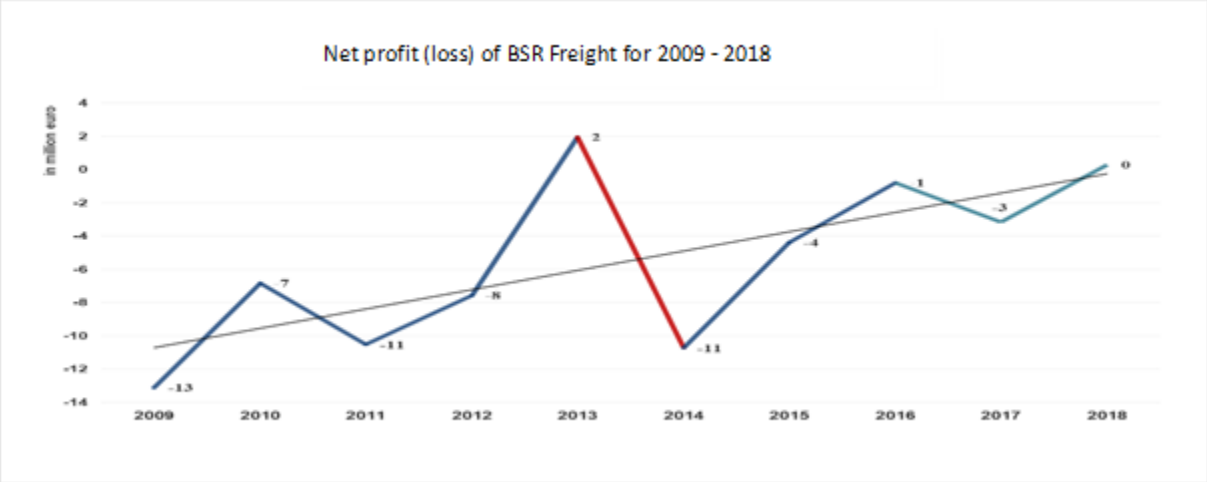


Fig. 31 Net profit (loss) BSRF 2009 - 2018

The performance of the transformational management in BSRP (see the Fig. 32 below) is also similar although it is not as straightforward as in BSRF and on Group level. The trend line goes upwards from a loss of EUR 6 mln in 2009 to a profit of EUR 1 mln in 2018. The only exception with a very sharp increase of the loss falls at 2013 and 2014 when the inertial management manages the company, and the financial result drops from a profit of EUR 1 mln down to a loss of EUR 6 mln.

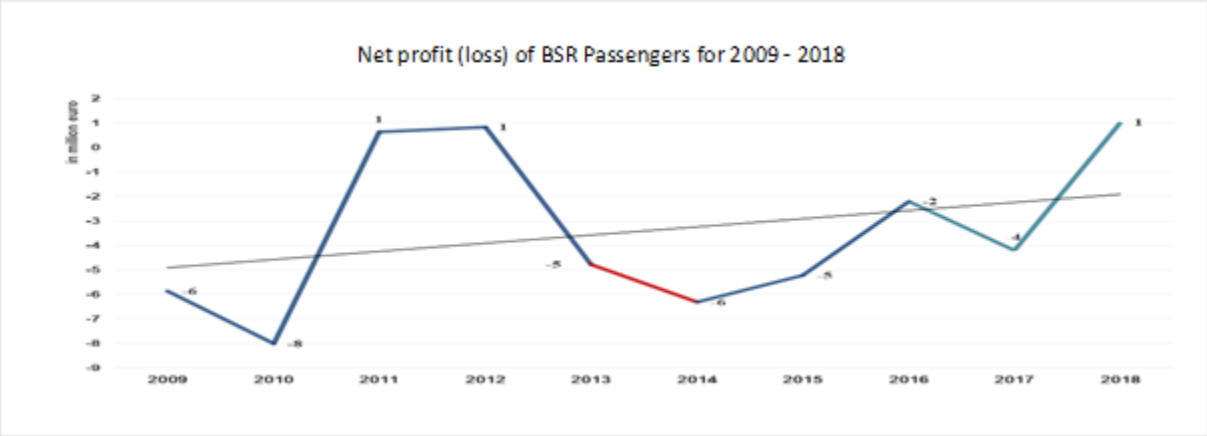


Fig. 32 Net profit (loss) BSRP 2009 - 2018

Although the inertial management runs the company for less than one year and a half, from July 2013 to November 2014, the performance of BSRF, BSRP and BSRG declines simultaneously in all three companies.

Another key performance indicator that presents the fitness of the company is the indebtedness. Fig. 33 below presents the dynamics of growing and declining indebtedness.

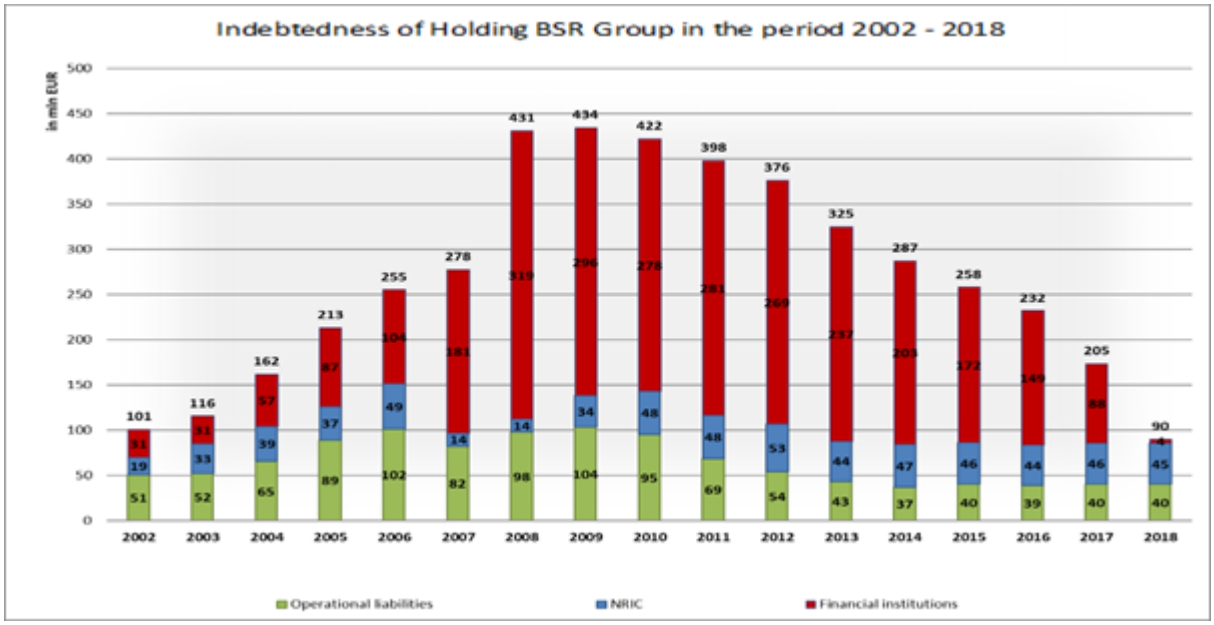


Fig. 33 Indebtedness BSRG 2002 - 2018

The debts of BSRG grow between 2002 and 2009 from EUR 101 mln to EUR 434 mln. This is a period when the company is run by the inertial management. However, the debts decline from EUR 434 mln to EUR 90 mln between 2010 and 2018. In this period, the transformation leadership dominates the company's management.

Conclusion. Under the management of the transformational management the BSRG, BSRF, and BSRP improve their net financial result and reduce the indebtedness to a reasonable level matching an adequate capital structure.

Statistical analysis of key performance indicators

The study aims to establish whether a significant difference exists between the inertial management and the transformational management performance indicators. In order to test this objective, by the quantitative employee performance metrics of the BSRH

management, their overall performance will be evaluated and will be determined whether it affects any of the key financial performance indicators of the Holding.

In the following analysis, the usage of data only for BSRH is because:

1. The critical reorganisation decisions are predominantly taken on a group level.
2. The debts are accrued in BSRH.
3. Costs are one of the key indicators, and some of them cannot be allocated to the subsidiaries for certain periods.
4. Statistical data has longer time-period on group level and better presents the trends.

The first step is to determine how many quality indicators will be used to evaluate the management. The initial information available with us is six quantitative variables of the management covering the period 2002-2017.

Table 2. Key Management Performance Indicators

Indicator	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Average age (years)	47	47	46	48	50	51	55	53	42	42	42	48	49	46	46	48
Professional experience (years)	22	21	21	24	26	27	31	28	18	17	16	23	23	20	20	21
Experience in BSR (years)	19	17	16	16	19	18	21	20	7	7	4	12	13	7	7	9
% of graduates after 1990	6%	7%	14%	8%	6%	5%	5%	10%	64%	63%	90%	33%	38%	75%	78%	75%
% of educational diversity	43%	35%	41%	36%	45%	53%	55%	70%	100%	100%	140%	100%	75%	213%	167%	150%
% adequacy to the occupied vacancies	3%	2%	0%	0%	0%	0%	0%	0%	29%	38%	60%	7%	13%	88%	78%	60%

In order to determine the number of qualitative variables and which quantitative variables to be included (into a set), factor analysis will be applied. The purpose of this statistical method is to determine the factors that are common to a set of variables among which correlation connections exist. These factors are called hidden because they are not directly observable, usually (Appendix 2 for more details).

The number of hidden factors determines through the values of Eigenvalues in Scree plot.

Fig. 34 Determination of the Number of Hidden factors

The Determination of the Number of Hidden Factors Figure shows that the graph becomes flattered after the second factor and that determines that the number of hidden factors consist of two. As a result, the number of hidden factors is fixed to two. However, the Determination of Belonging to a Hidden Factor Table shows that the analysis attaches all six factors to only one hidden factor.

Table 3. Determination of Belonging to a Hidden Factor

Component Matrix[a]

	Component	
	1	2
Average age (years)	**-.804**	.586
Work experience (years)	**-.866**	.481
Experience (years)	**-.981**	.039
% of graduets after 1990	**.969**	.163
% variety of educational institutions	**.853**	.502
% adequacy for the management position	**.907**	.374

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

Therefore, the rotation is also needed (Appendix 2 for more details).

Table 4. Rotated Component Matrix[a]

	Component	
	1	2
average age (years)	-.226	**.969**
total length of service (years)	-.341	**.930**
length of service in the field of railway transport (years)	-.717	**.670**
% of those who have completed their education after 1990	**.841**	-.510
% of the variety of completed HEIs	**.974**	-.177
% adequacy of the positions occupied	**.931**	-.309

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalisation. a. Rotation converged in 3 iterations.

Quantitative variables are attributable to the factor with the highest absolute value. The Rotated Component Matrix Table shows to which from the two hidden factors is related to the variable.

Quality measure	**Quantitative variables**
QM1	X1, X2, X3
QM2	X4, X5, X6

After attributing the variables to the specific factors, they are named. After careful consideration of the essence of the matter to which the questions are addressed and what they generally expressed, they can be named in the following way:

Quality measure	Name
QM1	Professional experience
QM2	Professional competence

After determining the number of hidden factors, they are formed as a single indicator. Once the two quality measures are constructed, it is seen that, on average, their values with the transformational management are higher than those of the inertial management.

Quality measure 1 is designed the way that when the value decreases, that means that the professional experience increases and vice versa, the bigger the value, the lower the experience of the managers in the BSRG system. The most experienced are the managers in 2008 and least experience are the managers in 2012.

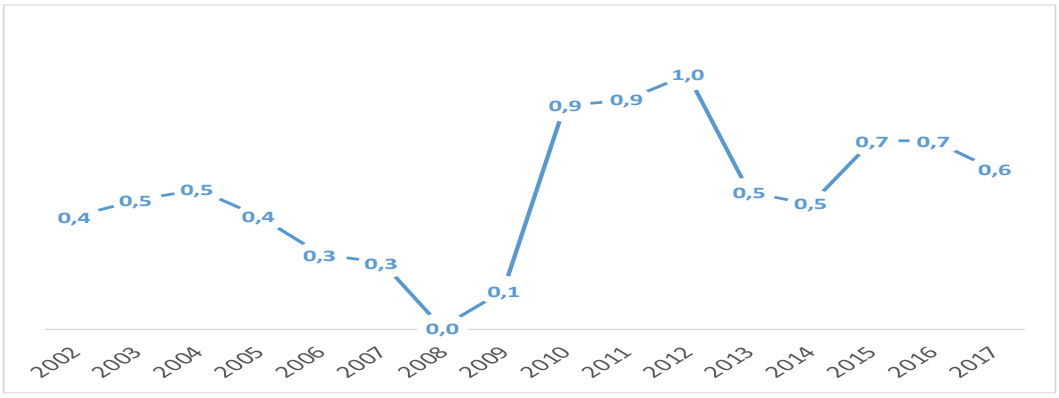


Fig. 35 Quality measure 1

Quality measure 2 is designed the way that the higher values mean higher professional competencies of the management. The most competent are the managers in 2015 and least competent the managers in 2002 - 2009.

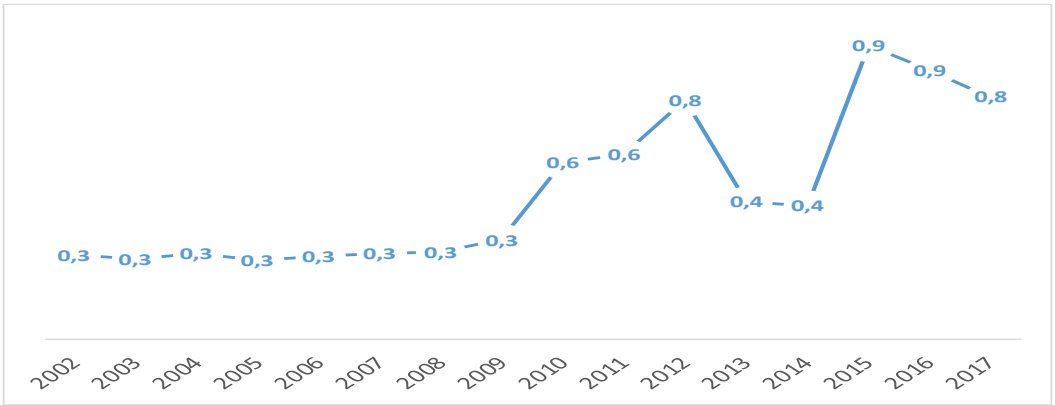


Fig. 36 Quality measure 2

The Group Statistics Table shows that the average value of the first quality measure with the inertial management is 0.368. With the transformational management, it is 0.814. Similar to the second qualitative variable, the mean for the transformational management is higher than that for the inertial management. However, this still does not justify claiming that this difference is statistically significant, i.e., that it objectively exists.

Table 5. Group Statistics

	Management	N	Mean	Std. Deviation	Std. Error Mean
Q1	Inertial	10	**.368**	.1839	.0581
	Transformational	6	**.814**	.1364	.0557
Q2	Inertial	10	**.303**	.0691	.0219
	Transformational	6	**.743**	.1459	.0596

Therefore, it will be checked whether the quality measures are statistically significantly higher with the transformational management compared to those with the inertial one. For this purpose, a statistical hypothesis test will be performed (Appendix 2 for more details).

Table 6. Test Statistics[a]

	Q2
Mann-Whitney U	.000
Wilcoxon W	55.000
Z	-3.254
Asymp. Sig. (2-tailed)	.001
Exact Sig. [2*(1-tailed Sig.)]	**.000**[b]

a. Grouping Variable: Management

b. Not corrected for ties.

The significance level of both tests Sig = 0.0% is less than the error risk of 1%, which gives reason to reject the null hypothesis for both qualitative measures, which in turn means that the quality measures with the transformational management are statistically significantly higher than those with the inertial one, and this can be confirmed with a 99%.

Once proven that the quality measures differ with the two types of management, it will be determined how they affect the three financial performance measures of the Holding, such as EBITDA, EBIT, and DEBT.

Table 7. KPIs BSRG 2002-2017 EUR thousands

KPAs	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
EBITDA	-23	-6	2	1	21	26	28	19	19	20	35	41	30	30	20	11
EBIT	-36	-21	-15	-17	-1	1	-4	-25	-21	-19	-14	-10	-17	-11	-3	-5
Debt	101	116	162	213	255	278	431	434	422	398	377	325	287	258	231	206
Q1	0,4	0,5	0,5	0,4	0,3	0,3	0	0,1	0,9	0,9	1	0,5	0,5	0,7	0,7	0,6
Q2	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,6	0,6	0,8	0,4	0,4	0,9	0,9	0,8

To account for the impact of each management, the financial performance indicators are attributed to the management they refer to. Then the dynamic order of financial performance indicators and the quality measures are divided into two periods – transformational and inertial management. Thus will be determined the direction of impact of each management on the financial performance indicators. This will be done through correlation analysis.

The correlation analysis gives an answer to the question of the strength and direction of the relationship between the variables. It ranges from -1 to +1, and the closer it is to -1 / + 1, the stronger the relationship between the variables is. At 0, the relationship is missing. Provisionally, the factor can be named as per the following limits:

$0 < |R| < 0.3$ – weak correlation

$0.3 < |R| < 0.5$ – moderate correlation

$0.5 < |R| < 0.7$ – significant correlation

$0.7 < |R| < 0.9$ – high correlation

$0.9 < |R| < 1.0$ - very high correlation

Table 8. Correlation relationships with inertial management

		EBITDA	EBIT	Debt
Q1	Pearson Correlation	-.310	-.345	**-.749**
	Sig. (2-tailed)	.383	.328	.013
	N	10	10	10
Q2	Pearson Correlation	**.651**	.022	.347
	Sig. (2-tailed)	.041	.951	.326
	N	10	10	10

The results of the correlation analysis are obtained at a 5% error risk.

With the inertial management, a significant relationship is established between the first quality measure and the debt, and between the second quality measure and the operating profit.

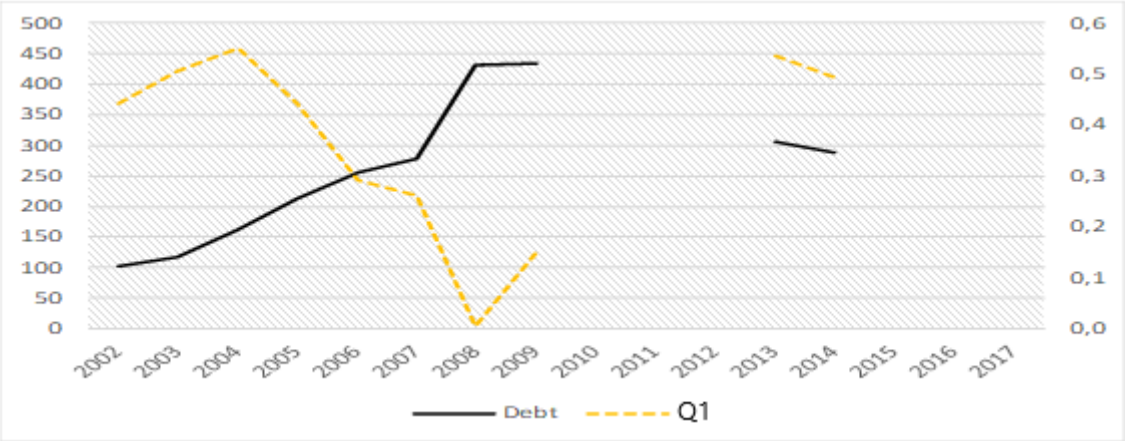


Fig. 37 Q1 and debt correlation

The relationship between the first quality measure and the debt is characterised as a high reverse correlation. That means that when Q1 decreases, the debt increases and because the construction of the indicator is such that with its' decrease, the professional experience within BSRG increases, that means that when the professional experience within BSRG increases the debt also increases. The other correlation dependence that emerges is a significant correlation between the second

quality measure and the EBITDA. This means that when, on average, the professional competence does not change, this leads to an increase in EBITDA with the inertial management. However, this correlation makes no sense.

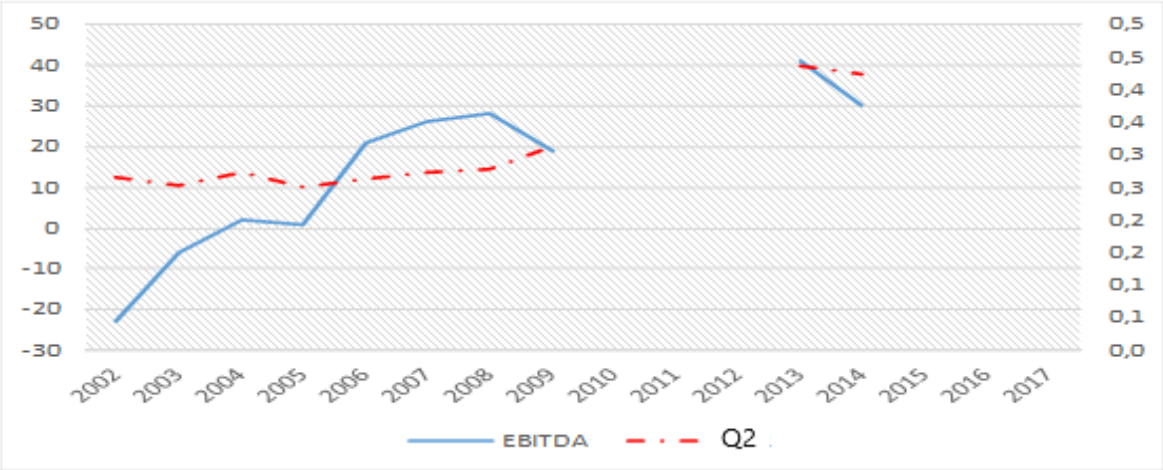


Fig. 38 EBITDA and Q2 correlation

No other significant correlation dependencies on the inertial management have been established.

With the transformational management, a single significant relationship is established at a 5% risk of error, and it is between the second quality measure and the debt.

Table 9. Correlation relationships with transformational management

		EBITDA	EBIT	Debt
Q1	Pearson Correlation	.624	-.732	.754
	Sig. (2-tailed)	.186	.098	.083
	N	6	6	6
Q2	Pearson Correlation	.325	.769	**-.849**
	Sig. (2-tailed)	.529	.074	.032
	N	6	6	6

This means that when, on average, the professional competence increases, this leads to debt reduction with the transformational management.

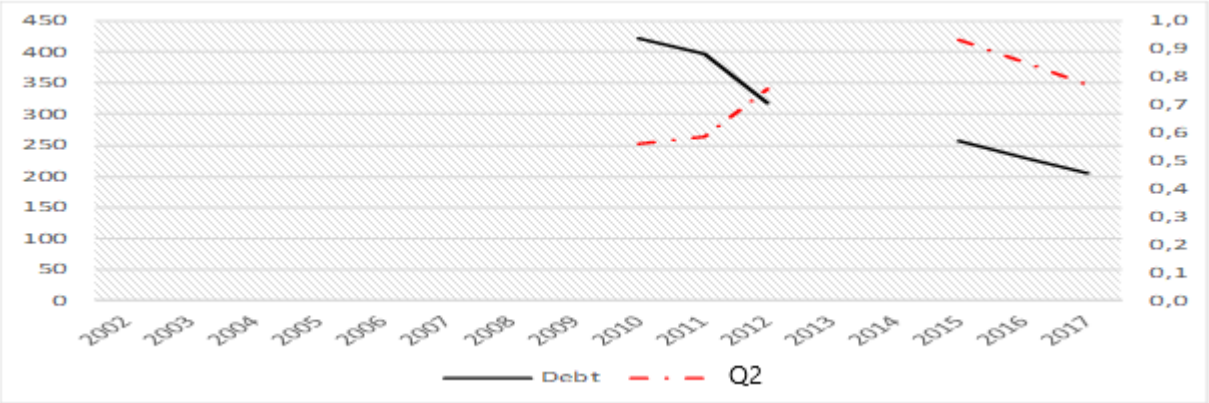


Fig. 39 Q2 and debt correlation

Moreover, at a more significant marginal risk of error of 10%, there are significant feedbacks between the first quality measure and the gross profit before interest and taxes, a significant direct relationship between the first quality measure and the debt, as well as a significant relationship between the second indicator and the gross profit before interest and taxes.

The general trend is that when the transformational management's professional experience increases, this leads to an increase in the gross profits and to debt reduction with the transformational management. As to the professional competence, improving the general professional competence leads to an increase in the gross profit and to debt reduction.

Since the period of the transformational management is too short (only 6 years), it cannot be proved that there is a clear correlation between these few marginal differentiated relationships.

Conclusion. *It is noteworthy that there is inertia with the inertial management with the professional experience indicator, thus with each subsequent year the financial performance indicators deteriorate. With the transformational management, this inertia is absent and a year of additional experience leads to improved financial performance indicators.*

CONCLUSION ON MANAGEMENT PROTOTYPE

Inertial management

Inertial Management Prototype. The Inertial top managers are older than the comparable newcomers in the company are. They have long professional experience predominately or entirely accumulated within the Bulgarian State Railways. The inertial top managers have graduated from a narrower set of Universities and do not have enough and relevant knowledge about doing business within a competitive environment and market economy. What is more important, they do not have sufficient professional competencies that are relevant for the positions they occupy within a big corporation.

Inertial Management Performance. Inertial managers lack the competencies required to anticipate the environmental shifts, design appropriate strategic response, reorganise and restructure a troubled company to turn it around and recover its going concern status. The net financial result and the indebtedness of BSRG, BSRF, and BSRP get worse at the time of the inertial management. There is inertia with the old management, thus with each subsequent year of professional experience, the financial performance indicators deteriorate.

Transformational Management

Transformational Management Prototype. Transformational top managers are younger than the comparable inertial managers in the company are. They have shorter professional experience than the top inertial managers do. Moreover, it is predominately accumulated outside the Bulgarian State Railways. Transformational managers come from different companies and different industries. They have graduated from a broader set of Universities and do have more knowledge about doing business within a competitive environment and market economy than the inertial managers. What is more important, they do have a much higher level of professional competencies that are relevant for the positions they occupy within BSRG.

However, the transformation management in the case of the Bulgarian State Railways transformation is not problem loss. As the analysis in section 3 shows, the professional competence of the managers is not optimal. The adequacy of the top managers in the BSRH is around 80%. However, the adequacy of the top managers in BSRF is 27%,

and the adequacy of those in the BSRP is around 14%. This fact cuts down on the adaptive capabilities of both companies.

Transformational Management Performance. Transformational managers have more competencies needed to anticipate the environmental shifts, design appropriate strategic response, reorganise and restructure a troubled company to turn it around and recover its going concern status. The net financial result of BSRG, BSRF, and BSRP improve at the time of the transformational management, and the indebtedness goes down to a level presenting an adequate capital structure. As contrasted with the inertial management, each subsequent year of transformational managers' professional experience leads to improvement of the financial performance of BSRG. That indicates the learning effect on the performance of the company.

In the context of contingency theory, it proves that the transformational managers have attributes (e.g., traits, skills, behaviour) that make them more capable than the inertial managers of reallocating and reconfiguring organisational skills and assets to recover the fitness of the company. As organisational ambidexterity postulates the complex set of decisions and routines designed by the transformational managers (see Chapter 6) enabled the organisation to sense and seize new opportunities through the reallocation of organisational assets.

The above data confirms the hypothesis that the adaptive capacity of the troubled BSRG declines with the length of service of the inertial management whereas it increases with the length of service of the transformational management.

Chapter Five

Trade Unions' Power and Adaptive Capabilities

Trade unions exercise a major part of their power through the collective labour agreements (CLA). Chapter 5 illustrates the effects of the CLA on the financial performance of BSRG in the reorganisation period. Two possible scenarios are analysed and compared quantitatively: (1) the inertial scenario illustrates the financial effects of the CLA and (2) the transformational scenario demonstrates the executive alternative proposed by the management at the launch of the reorganisation.

5.1. INTRODUCTION

Organisational culture is very often ignored in the organisational research because it is hard to assess. However, the collective labour agreement is one of the sources of data where essential elements of the company culture are encoded. CLAs reveal the power distribution within the corporations. They institutionalise certain setup, declare to be unchangeable and the institutional constraints, (institutionalised aspects of CLA) prevent organisational changes. Thus, in the limited surge space, organisations' performance tends to be worse when the managers have to adapt the organisation to the environmental shifts.

Trade unions strive to take as much control over decision making as possible. Among the critical areas of trade unions' influence are: (1) the inflow and outflow of people, (2) the process of selection, recruitment, education and career development, and (3) the mode of resource distribution via payroll, social benefits, and working conditions. Another significant influence arises from the privileges and protections of trade union leaders encoded as benefits in the collective labour agreement, at different levels of the organisational architecture.

The power of trade unions in corporations is an integral part of spontaneous institutionalisation. As trade unions collaborate with politicians' asperity that arises against organisational transformations origins in politics, especially in the state-owned organisations. However, the resistance against any change could have a devastating effect on corporate performance as necessary reorganisations could be blocked or postponed. The consequence of asperity on the speed and cost of the reorganisation of BSRG is investigated in the following parts of the Chapter. Comparative analyses

differentiate the labour agreements produced by the inertial and the transformational management of BSRG.

The trade unions' strength (the independent variable) is a cultural phenomenon, which in reorganisation-free periods grows with the age of the organisation. Arguably, the trade unions' controls coded in the organisational status quo are higher when they have a significant impact on the fitness of the company (the dependent variable). The power of trade unions plays an important role in large organisations (size is the control variable). The privileges of trade unions' leaders are encoded in the organisational status quo through the collective labour agreements (operationalisation). The stronger the CLAs' limitations on the decision making the worse is the fitness of the company (causal mechanism).

Study hypothesis 2. *The a*daptive capacity of the troubled BSRG to adjust to the environmental shifts declines with the strength of the limits imposed on the company performance by the institutionalised collective labour agreements.

5.2. METHODOLOGICAL AND INFORMATION BASIS

The data source for the analysis of the effects of the trade unions power on the adaptive capability of BSRG includes the Collective Labour Agreements (CLAs) adopted between 2009 and 2017, the financial statements of the three companies in BSRG between 2009 and 2017 and the Labour Code (LC) effective in the period.

The information on the leading indicators is summarised for each calendar year during the period for every subsidiary and BSRG as a whole. The effect of every article that exists in CLAs and differs from the same indicator in the LC is identified and analysed. The main areas where CLAs affect management's activities are identified, and comparative analysis between the limitations of inertial and transformational CLAs are performed.

The comparative analysis presents the difference between the company's financial performance in the inertial and in the transformational scenarios. It provides data about the financial impact of the CLAs (the resistance of trade unions) on the adaptive capability and the speed of the reorganisation of BSRG.

5.3 COLLECTIVE LABOUR AGREEMENTS: ALTERNATIVE SCENARIOS

The Inertial (Ecology) Scenario

The inertial scenario presents the traditional setup that has been historically institutionalised by the CLAs. This arrangement is announced to be unchangeable and the institutionalised aspects of the collective labour agreements, prevent undesirable changes throughout the reorganisation period. The trade unions in BSRG exercise their power to its upper limit, and in the limited space for decision-making, the performance of the company and its subsidiaries gets worse. In this scenario, the pressure from the trade unions is constant. The inertial scenario reflects the concept of the theory of structural inertia. The following paragraphs describe the mechanisms through which the collective labour agreements reduce BSRG's adaptive capabilities.

Trade unions' restrictions on employment dismissal. By signing a CLA, an employer's ability to terminate employment relationships in case of a reduction in the number of posts or reduction of the workload is reduced. In addition, the involvement of trade unions in the process of staff selection and dismissal creates factual difficulties. In practice, the executives do not have the full freedom to take independent decisions and to implement all the necessary reorganisation-oriented measures in line with the environmental shifts. There is not enough flexibility in restructuring a troubled enterprise in order to keep it as a going concern.

The opportunities for rapid and timely management response to the reduction in the workload during carriage of passengers and cargo specified in 2014 and 2016 CLA are severely limited and dependent on trade unions' will and reaction. There is no flexibility in taking management decisions in connection with the changing business climate. Despite any decline in transported cargo and passengers, the companies cannot respond promptly, and any possible staff optimisation is dependent on the discretion and will of the trade unions. Thus, all business processes become prerogative of the trade unions, which could lead to deviations from a typical business management model and to generation of additional losses from maintaining human resources more than those currently needed.

Article 11, para. 3 of 2014 and 2016 CLA of BSRP and BSRF stipulates: "The employer may dismiss a worker or an employee, a member of a trade union, or party to the CA, due to a reduction in the number of posts or reduction of the workload only subject to

a preliminary written consent in the sense of Art. 333(4) of the Labour Code (LC) of the relevant collective trade union body in the division".

Trade unions' interference in the selection processes. The interference of the trade unions with the staff selection processes creates factual difficulties for the managers to implement their policy. In practice, the companies are deprived of the opportunity to independently develop and implement their policy and objectives regarding human resources management. This, in turn, leads to an inability to plan the results.

Article 11(1) of 2014 CLA and 2016 CLA stipulates that "workers and employees to be made redundant shall be nominated by the Employer through selection by Art. 329 of LC (Labour Code), and based on specific criteria and indicators adopted by the parties." According to para.4, the employer undertakes to contribute to the social adaptation of the persons to be made redundant, directing them to vacant positions in the same or other divisions of the Companies and organising retraining at its own expense, and according to para.5, the trade unions are entitled to make proposals under para. 4.

According to Art.12 (1) of 2014 CA and 2016 CA, in case of staff reduction the Employer undertakes not to dismiss:

1. simultaneously members of one family;
2. workers and employees in working age, in the presence of posts occupied by pensioners or persons who have acquired a right to retirement pension in the same or similar position;
3. Workers and employees in the presence of posts that could be occupied by persons to be made redundant who meet the requirements for taking up the post.

According to (2), "in case of equal qualification and equal performance of work, workers and employees with more serious family or in strained circumstances or health status take precedence over the others to remain in employment". Also, according to para. 3, "in case of equal qualifications workers and employees who provide the maintenance of their families alone or who are single parents cannot be dismissed."

Trade unions' interference in human resource management. Largely, trade unions have been given the opportunity to both monitor the course of these processes and to

participate directly in decision-making. Such privileges lead to loss of the employers' opportunity to make direct discretion in the human resources management and to inability to develop an independent human resources policy.

Article 8(2) of 2014 CLA and 2016 CLA, states, "the employer shall notify the Unions of the announced competitions for vacant posts and shall include in the committees their authorised representative." Paragraph 5 of the same article stipulates that „other things being equal, workers and employees made redundant by the company take precedence over the others in accepting employment.“

Similar priorities are provided for in the wording of Art.12 of 2014 CLA and 2016 CLA. Paragraph 2 of Art. 12 stipulates that "in case of equal qualifications and equal performance of the job, workers and employees with more serious family, material situation or health status take precedence over the other to remain in employment." Paragraph 3 of Art.12 stipulates that "in case of equal qualifications, workers and employees who provide the maintenance of their families alone or who are single parents cannot be dismissed", and paragraph 4 of the same Article requires from the employer to "maintain a database of the redundant persons and information about them in each division".

At the same time, Art. 19(1), cl. 4 of 2014 CLA and 2016 CLA contains an agreement that by 31 December 2014 (according to 2016 CLA - by 31 October 2016) „the system for evaluation of the posts and jobs" in the Companies shall be reviewed.

Article 40(2) of 2014 CLA and 2016 CLA stipulates that post for which inconvenient working hours are determined shall be proposed by the parties to the CLA in the divisions and that the Company Manager shall approve the list after consultation with the Central Board of the Parties (CBP).

A new Section II - Training, Formal Qualification, and Re-Qualification - is created in 2014 CLA and 2016 CLA. It stipulates that trade unions may directly participate in the human resources management process in the enterprise:

According to Art.15(1), Section II of 2014 CLA and 2016 CLA, the employer shall develop in cooperation with the Trade Unions the Ordinance on Vocational Training of Staff in Holding BSR Ltd. Paragraph (2) of the same Article stipulates that the employer shall develop a program for the professional development of the staff in cooperation

with the Trade Unions. It shall validate the organisation and conduct of training for the staff in order to create conditions for its professional development.

Article 16 (of 2014 CLA and 2016 CLA) stipulates, "on a proposal from a Trade Union and after examination by the Parties, the Employer shall decide on training in the sense of Art.169 of the Labour Code ".

The trade unions' obligations to the employer. The volume of information is significantly reduced in the inertial labour agreements in 2014 and 2016. The trade unions provide data only for the actual number of their members, but not data on the structure, and management bodies at central and local level - Art. 18(2) of 2014 CLA and 2016 CLA

Employers' ability to be informed of these circumstances is related to the exercise of their workers and employees' rights - for example, with a view to assessing the existence of protection under Art.333, para. 3 of LC concerning the members of the trade union management in the enterprise. In this sense, to ensure that such protection is in place, the employer needs more information from the trade union but not only data on its members who fall within the scope of that protection. In BSRF, although the trade union has designated an employee as a beneficiary of this protection on the basis of the analysis of structure and organisation of the trade union, Supreme Court of Cassation has held that, as regards this person there are no grounds for protection under Art.333, para. 3 of LC.

In this sense, Art. 18(2) of 2014 CLA and 2016 CLA provide for that the trade unions shall provide information on the actual number of their members at the request of the Employer.

The Transformational Scenario

The transformational scenario presents the attempts of the management to reduce the power of the trade unions and to eliminate the negative impact of the collective labour agreements on the financial performance of BSRG. The maximum effect that could have been achieved was to eliminate the collective labour agreements for the period of reorganisation and regulate the labour arrangements through the Labour Code adopted in Bulgaria. The midway was to amend the collective labour agreements and produce a more reorganisation-friendly setup. Both sub-scenarios were available at the beginning of the reorganisation. However, because of trade unions' power and the

inertial political environment, only the second one took place just for a short period in the years 2012 and 2013. The transformational scenario reflects the concepts of adaptation theories that the executives can adapt the organisations to the changing environments. The following paragraphs describe the amendments through which the CLAs produced a friendlier reorganisation-oriented environment and improved the adaptive capabilities of BSRG.

Fewer restrictions on employment dismissal. 2011 CLA contains a progressive provision that the protection should not cover the dismissals resulting from the reduction in the number of posts and all cases of reduction of the workload (Art.11(1) of 2011 Collective Agreement (CA) of BSRF and Art. 10(1) of 2011 CLA of BSRP. Thus, companies had the opportunity to stop the trains with an average profitability of less than 15% (for passenger transport) and to take steps, in case of reducing the workload in certain structural units or the volume of transport by 10% or more of the total volume (for cargo transport), to optimise the staff without requesting prior agreement from the trade unions. These amendments made it possible to take into account the environment in which the companies operate, allowing for flexibility and faster response in case of a decline in the number of transported passengers and availability of low profitability trains.

Article 11(1) of 2011 CLA of BSR Freight Ltd states that in case of dismissal due to the reduction of the workload, the preliminary protection provided for in Art.333(4) of LC shall be used, except for the cases of:

- a sharp decline in the volume of transported cargo by 10% or more of the total volume;
- reduction of the number of repaired wagons and locomotives by 10% or more of the total volume;
- increase in the production capacity of one repair unit by 5% at the expense of other units or increase in the worked out person-hours in one repair unit by 10% to the detriment of other units.

Article 10(1) of 2011 CLA of BSR Passengers Ltd. states that: "In case of dismissal due to the reduction of the workload, the preliminary protection provided for in Art.333(4) of LC shall be used, except for the cases of:

- stopping trains with an average profitability of less than 15%;
- increase by 5% in the production capacity of a repair unit at the expense of other repair units;
- increase by 10 % in the worked out person-hours in a repair unit at the expense of other repair units;

The said texts also provide that the employer shall make a written request for a specific dismissal to the trade union body whose member is the worker or employee. The trade union body shall answer within ten days upon receipt of the employer's request. Worker or employee shall be dismissed after the employer has received the written consent of the trade union body. If the employer does not receive a written answer within the specified time limit, the consent shall be deemed to have been given. In the case of written refusal, the latter shall be motivated giving the specific reasons therefor.

Less interference in the selection processes. 2011 CLA does not contain an agreement that trade unions can participate in the process of adopting the selection criteria and indicators, which ensured a more operational character and opportunity for management judgment as appropriate in defining the staff selection criteria and indicators.

2011 CLA (Art.11 (1) of 2011 CLA of BSRF and Art. 10(1) of 2011 CLA of the BSRP), for example, also provide for an obligation for employers to contribute to the social adaptation of the persons to be made redundant, directing them to vacant positions in the same or other divisions of the Companies and organising retraining for its own account. However, unlike 2014 CLA and 2016 CLA, 2011 CA does not allow the trade unions to make proposals for implementation of social adaptation measures.

2011 CLA (Art.12 of 2011 CLA of BSRF and Art.11 of 2011 CLA of BSRP) stipulates that "*in case of staff reduction, the Employer agrees not to dismiss workers and employees in working age if there are posts occupied by pensioners or persons who have acquired a right to retirement pension, and not to dismiss members of one family simultaneously* ", but there is no protection similar to that referred to in Art.12 (1), cl.3 and para. 2 and para.3 of 2014 CLA and 2016 CLA.

Lower interference in human resource management. The above restrictions are significantly reduced in 2011 CLA, whereby the Trade Unions are not entitled to participate in the commissions involved in conducting competitions for occupation of

posts (Article 8(2) of 2011 CLA of BSRF and Article 7(2) of 2011 CLA of BSRP state that "the employer shall notify the Trade Unions and shall make appropriate announcements at the headquarters of the respective division and specific unit of the job vacancies that are to be occupied and of the announced competitions for occupation of posts and shall invite their representatives to participate in the Commissions as observers"). Some of the social advantages stipulated in Art. 8, para.5 and in Art. 12(2)(3) and (4) of 2014 CLA and 2016 CLA do not exist in selecting and employing staff. There are no arrangements similar to those specified in Section II - Training, Formal Qualification, and Re-Qualification - of 2014 CLA and 2016 CLA.

More trade unions' obligations to the employer. 2011 CLA (Art. 17a of 2011 CLA of BSRF and Art. 17 of 2011 CLA of the BSRP) contains an arrangement for provision of more comprehensive information by the trade unions on both their membership base and their structure (the provision states that "*trade unions shall provide the employer with information on their structure and their membership base upon request*").

5.4. CLA COMPARATIVE ANALYSIS: INERTIAL VS. TRANSFORMATIONAL SCENARIOS

BSR Freight Transportation Ltd

Environmental signals. In the period 2010-2017, the company operates in an environment of growing competition of the private railway undertakings, a reduced share of the freight railway transport and substantial internal inefficiencies accumulated in the past. As a result of that the transported goods drop from 10,778 tons in 2010 to 6 230 tons in 2017 (Audited financial reports 2010-2017).

In the context of this unfavourable business situation, the company faced the exceptional challenge of optimising its structure and processes in order to adapt to the environmental shifts and avoid bankruptcy. The company's management faced the challenge to keep the workers motivated on the one hand and to restructure the company on the other. During the period under review, four Collective Labour Agreements (CLA) were in force. Each of them had a duration of two years, with the term of the most recent collective agreement (2016 CLA) being extended by an annex for another year.

- 2009 CLA was effective during 2009 and 2010.
- 2011 CLA covered the years 2011 and 2012.
- 2013 CLA covered the years 2013 and 2014.
- 2015 CLA covered the years 2015, 2016 and 2017.

The cost of collective labour agreements. The difficulties created by the Collective Labour Agreements mentioned above relate to both the necessity to optimise the staff in line with the volume of freight. To determine the financial burden on BSRF, an analysis was made of each CLA signed with the social partners compared to the Labour Code (LC) for the respective years.

The Collective Labour Agreement provides for some higher types of remuneration, both basic and additional, which do not guarantee an increase in the results from the workers and employees' work but only lead to an increase in the employer's financial commitments.

Basic remuneration. The comparison between the basic remuneration of the workers and employees of BSRF laid down in LC and that stipulated in 2009-2016 CLA shows that there is a difference in the company's burden.

The increase in the salary and social security contributions is due to the calculation of the funds under the agreed higher basic salary laid down in the CLA. In addition to the differences in the basic salaries, the calculation of the length of service and professional experience is also affected by the higher percentage set in the CLA - 1%, while that provided for in the Labour Code is 0.6% for each length-of-service year.

The overall burden amounts to EUR 17 mln.

- More than EUR 7 mln paid for employees' remuneration during the period under review;
- The additional cost of EUR 2 mln paid for social security contributions;
- The additional costs for the length of service and professional experience are EUR 9 mln.

Additional remunerations. The analysis of additional remuneration specified in the Labour Code and that contained in the CLA for the period 2010-2017 shows that the

costs incurred for additional remuneration under the CLA burden the company by EUR 10 mln.

The costs for night work in the period 2009-2017 specified in the Labour Code were EUR 0.125. However, in the CLA, these funds are increased by different percentages as shown in the table 10 below:

Table 10. Night work costs LC vs CLA

Night work	LC	CLA
- for the position of driver and assistant driver of locomotive	EUR 0.125	53%
- for the positions referred to in Appendix 3	EUR 0.125	42%
- for all other positions	EUR 0.125	37%
- for alternate duty according to a schedule	EUR 0.125	25%

Sources: LC, 2011 CA, 2014 CA, 2016 CA

Correspondingly, the costs calculated in accordance with the CLA exceed by EUR 5 mln the estimated cost that would have been paid by the BSRF in accordance with the LC.

The rate of increase for the worked overtime stipulated in the Labour Code is also increased in the Collective Labour Agreement. The table 11 below indicates the difference between the costs of LC and the costs of CLA.

Table 11. Overtime costs LC vs CLA

Overtime	LC	CLA
- on working days	50%	60%
- on weekends	75%	90%
- during public holidays	100%	110%
- for the difference exceeding the norm specified in Art. 146, para. 2 of LC for worked out overnight	110%	110%

Sources: *LC, 2011 CA, 2014 CA, 2016 CA*

The overtime cost incurred under the CLA in excess to the costs that would have been incurred under the LC for the period 2010-2017 is EUR 1 mln. The remuneration for kilometres driven by the loco-drivers increases from EUR 0.00175 in LC to EUR 0.0218 in the CLA. The kilometres reward costs incurred under the CLA in excess to the costs that would have been incurred under the LC for the period 2010-2017 are EUR 3 mln.

The benefits paid in compliance with the CLA are higher in comparison with what would have been paid under the Labour Code due to: (1) the difference in the minimum salary under the Labour Code and that agreed in the CLA and (2) the different number of months defined in the Labour Code and CLA for the calculation of the benefits. The table 12 below shows the cost difference between the LC and the CLAs.

Table 12. Benefits costs LC vs CLA

Benefits	LC	CA
Benefits upon termination of employment relationship due to illness under the terms and conditions of Art. 325, cl.9 and Art. 327, cl.1 / Art. 34 of CA /	2 months	3 months
Benefit for acquired right to retirement pension under Art. 222, para. 3 of LC	6 months	9 months
In case of dismissal under Art. 328, para 1 of LC and at the time of termination of their employment relationship the persons have no more than one year until the acquisition of the right to retirement pension and they are entitled to receive the benefit referred to in Art. 222, para. 1 of LC	1 month	6 months
In case of dismissal under Art. 328, para. 1, cl. 1, cl.2, cl. 3 and cl. 4 of the Labour Code, the persons are entitled to receive the benefit referred to in Art. 222, para. 1 of LC, for the time they were unemployed but for no more than: 220 kt	1 month	6 months

Sources: LC, 2011 CA, 2014 CA, 2016 CA

The benefits paid in the period 2010-2017 under the four effective CLA have caused extra costs for the employer of EUR 4 mln.

The table 13 below shows the total amount paid to the workers and employees of BSRF for basic and additional remuneration and social security contributions in the period 2010-2017 under Collective Labour Agreements in force during this period.

The basis remuneration includes paid salary, social security contributions and accrued amounts for the length of service and professional experience. The additional remuneration includes amounts paid for night work, overtime and kilometres driven.

Table 13. CLA costs in BSRF 2009 - 2017

(million euro)

INDICATORS	CLA 2009	CLA 2011		CLA 2014		CLA 2016			Total
Basic remunerations	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2010-2017**
Remuneration costs	6	8	8	8	9	8	9	9	66
Social security contributions	2	2	2	2	2	2	2	3	18
Length of service and prof. experien	2	3	3	3	3	3	3	3	23
Total basic costs	**11**	**12**	**14**	**13**	**15**	**14**	**14**	**15**	**107**
Additional remunerations									
Night work	1	1	1	1	1	1	1	1	6
Overtime	0	0	1	0	1	1	0	1	4
Kilometres driven	0	0	0	1	1	0	0	0	4
Total additional costs	**1**	**1**	**2**	**2**	**3**	**2**	**1**	**2**	**14**
Total benefits paid	**2**	**2**	**1**	**0**	**1**	**1**	**1**	**1**	**8**
TOTAL:	**13**	**16**	**16**	**16**	**18**	**16**	**16**	**18**	**129**
TOTAL /CLA/	**13**	**32**		**34**		**50**			**129**

Sources: Accounting reports, Annual Labour Reports, 2011 CA, 2014 CA, 2016 CA, 2011-2017 BSRF Business Plans, Labour Code, Ordinance on the Structure and Organisation of Salaries, Council of Ministers Decree No. 133 of 1993

During the entire period, 2009-2017, salaries and benefits amounted to EUR 129 mln are paid to workers and employees of BSRF. Under the Labour Code, these costs would amount to EUR 98 mln.

Table 14. LC costs in BSRF 2010 - 2017

(million euro)

INDICATORS	LC 2010	LC 2011	LC 2012	LC 2013	LC 2014	LC 2015	LC 2016	LC 2017	Total
Basic remunerations									
Remuneration costs	5	7	7	7	8	8	9	9	59
Social security contributions	1	2	2	2	2	2	2	3	16
Length of service and prof. experien	1	2	2	2	2	2	2	2	14
Total basic costs	**8**	**10**	**11**	**11**	**12**	**12**	**13**	**14**	**90**
Additional remunerations	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Night work	0	0	0	0	0	0	0	0	1
Overtime	0	0	1	0	0	0	0	1	3
Kilometres driven	0	0	0	0	0	0	0	0	0
Total additional costs	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**1**	**5**
Total benefits paid	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
TOTAL:	**9**	**12**	**12**	**12**	**13**	**13**	**14**	**15**	**98**
TOTAL /CLA/	**9**	**23**		**25**		**41**			**98**

Sources: Accounting reports, Annual Labour Reports, 2011 CA, 2014 CA, 2016 CA, 2011-2017 BSRF Business Plans, Labour Code, Ordinance on the Structure and Organisation of Salaries, Council of Ministers Decree No. 133 of 1993

The table 15 below shows that for the entire duration of the four Collective Agreements (2009-2017), the financial burden on the employer is EUR 31 mln.

Table 15. LC vs CLA costs in BSRF 2010-2017

(million euro)

INDICATORS	Difference LC/CLA				Total for the period 2010-2017
	LC/CLA 2009	LC/CLA 2011	LC/CLA 2014	LC/CLA 2016	
Basic remunerations					
Remuneration costs	1	2	2	1	7
Social security contributions	0	1	1	0	2
Length of service and prof. experience	1	2	2	3	9
Total basic costs	**3**	**6**	**5**	**4**	**17**
Additional remunerations					
Night work	0	1	1	2	5
Overtime	0	0	0	1	1
Kilometres driven	0	1	2	1	3
Total additional costs	**0**	**2**	**4**	**3**	**10**
Total benefits paid	**1**	**1**	**1**	**2**	**4**
TOTAL:	**4**	**9**	**9**	**9**	**31**

Sources: Accounting reports, Annual Labour Reports, 2011 CA, 2014 CA, 2016 CA, 2011-2017 BSRF Business Plans, Labour Code, Ordinance on the Structure and Organisation of Salaries, Council of Ministers Decree No. 133 of 1993

The analysis of the four Collective Agreements which were in force during the period 2010-2017 shows that 2014 CLA creates the most substantial financial burden on the employer amounting to EUR 9 mln.

The cost of staff overcapacity. Zero Based Budgeting as a financial instrument is used to determine the spare capacity in the company. The budgeting process begins with revenue forecasts for the relevant year based on the volumes requested by forwarders and shippers of the company. Activities that are directly related to the generation of the planned revenue are examined in detail, each activity or process being assessed whether it is necessary for the current format, and what volume and what quality levels should be achieved.

The objective is to highlight the excess assets and resources that have led to the cost base increase. The table below summarises the data from the detailed calculations made for each year of the period under review see *Appendix 5*

The excess staff has been identified for each year, after examining the activities and processes, and depending on the volumes to be released. This excess staff is laid

down in the company's business plans as staff to be dismissed. However, due to the restriction of the employer's ability to terminate employment relationships in case of a reduction in the number of posts or reduction of the workload imposed by the collective agreements, these employees have not been dismissed.

In 2011, although the trade unions went on strike for 28 days, the management neglected the postulates of the collective labour agreement and dismissed the current overcapacity of employees. For this reason, the company does not bear costs from overcapacity.

Despite the decrease in the volumes of transported goods during the rest of the period under review, the company cannot react promptly, and the discretion of the trade unions determined the optimisation of the staff. Table 19 below shows that after examining the activities and the processes in the BSRF could be determined that the overcapacity of 2,787 people for the period 2010-2017 has led to excess costs of EUR 10 mln.

Table 16. Costs of employees' overcapacity in BSRF 2010 - 2017

(million euro)

INDICATORS	2010	2011	2012	2013	2014	2015	2016	2017	Total 2010-2017
Averagesalary /euro/	386	408	407	408	446	461	468	538	440
Employees	3 243	4 413	3 872	3 795	3 672	3 257	3 332	3 157	3 593
Overcapacity	891	50	115	396	363	612	98	262	2 787
Cost of overcapacity*	2	0	0	2	2	2	1	1	10

Sources: Accounting reports, Annual Labour Reports, Business plans of the BSR 2010-2017

***** *The cost of overcapacity is net one and includes the cost of salaries and social security contributions of the active staff during the period less the benefit due under the CLA.*

What is the effect of this financial burden on the financial position of the company? The table 17 below shows the main financial indicators of the company for the period 2010-2017. The overall loss for the period is EUR 43 mln. The indebtedness at the end of the period is EUR 54 mln.

Table 17. Inertial Scenario – CLA financial burden in BSRF 2010 - 2017

(million euro)

	2010	2011	2012	2013	2014	2015	2016	2017
Revenue	79	95	77	71	68	63	53	56
Expenses	85	100	80	64	69	57	51	55
EBITDA	-7	-4	-3	6	-1	6	2	1
EBIT	-7	-11	-13	-5	-12	-4	0	-3
Net profit	-7	-11	-8	2	-11	-4	0	-3
Equity	-5	49	42	40	27	20	56	51
Assets	46	110	110	99	86	71	107	105
Debts	52	61	67	59	58	52	51	54

Sources: Audited financial reports 2010-2017

Table 18 below shows the outcome of the transformational scenario. If the effect of CLAs for the period 2010-2017 had been disregarded, in other words, remuneration costs of EUR 31 mln above the Labour Code and costs of overcapacity of staff of EUR 10 mln had been eliminated the financial result of the company would have increased by EUR 41 mln for the period and would decrease to a loss of EUR 1 mln as shown in table 9 below. The financial result of the company for the last three years (from 2015 to 2017) would have been a profit. The indebtedness would have decreased from EUR 54 mln to EUR 13 mln.

Table 18. Transformational scenario - no CLA financial burden in BSRF 2010 - 2017

(million euro)

	2010	2011	2012	2013	2014	2015	2016	2017
Revenue	79	95	77	71	68	63	53	56
Expenses	80	95	75	59	61	51	47	51
EBITDA	-1	0	2	12	7	12	6	5
EBIT	-2	-7	-9	1	-5	2	3	2
Net profit	-2	-7	-4	8	-3	2	4	1
Equity	0	59	56	60	54	53	93	93
Assets	46	110	110	99	86	71	107	105
Debts	47	51	53	39	31	19	14	13

Sources: Audited financial reports 2010-2017.

BSR Passengers Transportation Ltd.

Environmental signals. The operation of the BSRP from 2010 to 2017 is characterised by the exceptional dynamics of the business environment, which presents the company with many challenges. During this period, the competition from the road transport increased, the trains of the company were 40 years old and could

not provide quality services to the client, and the modernisation of some parts of the rail infrastructure interrupted the smooth transportation of passengers. Above all, the BSRG of companies was on the verge of bankruptcy. As a result of that, the number of transported passengers dropped from 30 mln in 2010 to 21 mln in 2017 (Audited financial reports 2010-2017).

The management of BSRG undertook a large-scale reorganisation in order to rescue the going concern status of the enterprise. However, the collective labour agreements between the employer and the trade unions imposed restrictions on the implementation of the necessary reforms of the company.

The negotiations on the 2011 Collective Labour Agreement (CLA) marked the beginning of the market-driven management by the BSRG's transformational leadership. The agreements reached with the social partners on some key issues were based on the balance between protecting the interests of the employees and taking into account the real market situation facing the company. The new ideas and models for restructuring in 2011 were even more difficult to enforce because of the extremely social orientation of the arrangements that had already expired with the CLA 2009 – arrangements not in line with the dynamics of the market conditions in which the company operates.

Four Collective Labour Agreements were in force through the observed period. Each of them had a two-year period of action, with the last Collective Labour Agreement, namely CLA 2016, extended by an annex for another year.

- CLA 2009 was in force in 2009 and 2010;
- CLA 2011 was in force in 2011 and 2012;
- CLA 2013 was in force in 2013 and 2014,
- CLA 2015 covers the years 2015, 2016 and 2017

The cost of collective labour agreements. The difficulties created by the Collective Labour Agreements relate not only to the ability to optimise staff**.** In order to determine the burden that the BSRP carries, an analysis was made for each CLA signed with the social partners compared to the Labour Code for the respective years. The total cost of workers and employees of the BSRP includes basic and additional remuneration and social security contributions. The basis remuneration includes paid salary, social

security contributions and accrued amounts for the length of service and professional experience. The additional remuneration includes amounts paid for night work, overtime and kilometres driven.

Basic remuneration. The comparison between the basic remuneration of the workers and employees of the BSRP as laid down in LC and that stipulated in 2009—2016 CLA shows that there is a difference in the company's burden. The increase in the salary and social security contributions is due to the calculation of the funds under the agreed higher basic salary laid down in the CLA. In addition to the differences in the basic salaries, the calculation of the length of service and professional experience is also affected by the higher percentage set in the CLA - 1%, while that provided for in the Labour Code is 0.6% for each length-of-service year.

The overall burden amounts to EUR 26 mln.

- More than EUR 10 mln paid for employees' remuneration during the period under review;
- An additional EUR 3 mln paid for social security contributions;
- The additional costs for the length of service and professional experience are EUR 13 mln.

Additional Remunerations. The analysis of the additional remuneration specified in the Labour Code and that contained in the CLA for the period 2010-2017 shows that the funds paid for additional remuneration under the CLA burden the company by an amount of EUR 9 mln.

The funds paid for night work in the period 2009-2017 exceed by EUR 1 mln the amount estimated by the employer; if they were calculated according to the coefficients specified in the Labour Code, they could have been EUR 0.125 per hour. In the CLA, these funds, however, are increased by different percentages:

Table 19. Night work costs LC vs CLA

Night work	LC	CLA
- for the position of driver and assistant driver of locomotive	EUR 0.125	53%
- for the positions referred to in Appendix 3	EUR 0.125	42%
- for all other positions	EUR 0.125	37%
- for alternate duty according to a schedule	EUR 0.125	25%

Sources: LC, 2011 CLA, 2014 CLA, and 2016 CLA

The overtime funds paid under the CLA for the period 2010-2017 also have a negative effect on the employer, amounting to EUR 7 mln since, apart from the higher basic salary used as a basis for their calculation, the rate of increase stipulated in the Labour Code is also increased:

Table 20. Overtime costs LC vs CLA

Overtime	LC	CLA
- on working days	50%	60%
- on weekends	75%	90%
- during public holidays	100%	110%
- for the difference exceeding the norm specified in Art. 146, para. 2 of LC for worked out overnight	110%	110%

Sources: LC, 2011 CLA, 2014 CLA, and 2016 CLA

Similarly, when calculating the remuneration for kilometres driven by the loco-drivers, the increase in LC of EUR 0.00175 increases to BGN 0.0218 in the CLA and results in an amount of EUR 1 mln that should be paid by the employer.

The benefits paid in the period 2010-2017 under the four effective CLA have caused damage to the employer amounting to EUR 1 mln. The reason is again cumulative, results from the difference in the minimum salary under the Labour Code, and that agreed in the CLA, and the different number of months defined in the Labour Code and CLA for the calculation of the benefits.

Table 21. Benefits costs LC vs CLA

Benefits	LC	CLA
Benefits upon termination of employment relationship due to illness under the terms and conditions of Art. 325, cl.9 and Art. 327, cl.1 / Art. 34 of CLA /	2 months	3 months
Benefit for acquired right to retirement pension under Art. 222, para. 3 of LC	6 months	9 months
In case of dismissal under Art. 328, para 1 of LC and at the time of termination of their employment relationship the persons have no more than one year until the acquisition of the right to retirement pension and they are entitled to receive the benefit referred to in Art. 222, para. 1 of LC	1 month	6 months
In case of dismissal under Art. 328, para. 1, cl. 1, cl.2, cl. 3 and cl. 4 of the Labour Code, the persons are entitled to receive the benefit referred to in Art. 222, para. 1 of LC, for the time they were unemployed but for no more than: 220 kt	1 month	6 months

Sources: LC, 2011 CLA, 2014 CLA, 2016 CLA

The table 22 below shows the total amount paid to the workers and employees of BSRP for basic and additional remuneration and social security contributions in the period 2010-2017 under the Collective Agreements in force during this period.

Table 22. CLA costs in BSRP 2009 - 2017

(million euro)

INDICATORS	CLA 2009	CLA 2011		CLA 2014		CLA 2016			Total
	2010	2011	2012	2013	2014	2015	2016	2017	
Basic remunerations									
Remuneration costs	9	12	13	13	15	15	15	17	108
Social security contributions	2	4	4	4	5	5	5	6	34
experience	1	3	4	4	4	4	4	4	29
Total basic costs	13	18	21	20	24	23	25	27	171
Additional remunerations									
Night work	0,3	1	1	1	1	1	1	1	9
Overtime	2	2	2	2	2	2	2	2	14
Kilometres driven	1	1	2	2	2	2	1	1	11
Total additional costs	3	4	4	4	4	4	5	5	34
Total benefits paid	0	2	1	0	1	1	1	0	8
TOTAL:	16	2	26	25	29	29	30	32	213
TOTAL /CLA/	16	51	0	55	0	91	0	0	213

Sources: Audited financial reports, Annual Labour Reports, CLA 2011, CLA 2014, CLA 2016, 2011-2017 BSRP Business Plans, Labour Code. Ordinance on the Structure and Organisation of Salaries, Council of Ministers Decree No. 133/1993

During the entire period, 2010-2017, salaries and benefits amounted to EUR 213 mln are paid to workers and employees of the BSRP. If these costs were calculated under the Labour Code, as table 23 shows, they would amount to EUR 177 mln.

Table 23. LC costs in BSRP 2010 - 2017

(million euro)

INDICATORS	LC 2010	LC 2011	LC 2012	LC 2013	LC 2014	LC 2015	LC 2016	LC 2017	Total
Basic remunerations									
Remuneration costs	7	10	11	12	13	14	15	17	98
Social security contributions	2	3	3	3	4	4	5	6	31
Length of serviceand prof. experience	1	1	2	2	2	2	2	3	16
Total basic costs	10	15	16	17	19	20	23	25	145
Additional remunerations									
Night work	0	1	1	1	1	1	1	1	8
Overtime	1	1	1	1	1	0	1	1	8
Kilometres driven	1	1	1	1	1	1	1	1	10
Total additional costs	2	3	3	3	3	3	4	4	26
Total benefits paid	0	2	1	0	1	1	1	1	7
TOTAL:	12	20	20	21	23	25	28	30	177

Sources: Audited financial reports 2010-2017, Annual Labour Reports, CLA 2011, CLA 2014, CLA 2016, 2011-2017 BSRP Business Plans, Labour Code. Ordinance on the Structure and Organisation of Salaries, Council of Ministers Decree No. 133 of 1993

The table 24 below shows that for the entire duration of the four Collective Labour Agreements (2009-2017), the financial burden on the employer is EUR 36 mln.

Table 24. LC vs CLA costs in BSRP 2010 - 2017

(million euro)

INDICATORS	Difference LC/CLA				Total 2010-2017
	LC/CLA 2009	LC/CLA 2011	LC/CLA 2014	LC/CLA 2016	
Basic remunerations					
Remuneration costs	2	4	3	1	10
Social security contributions	0	1	1	0	3
Length of serviceand prof. experience	1	0	4	5	13
Total basic costs	**3**	**8**	**8**	**7**	**26**
Additional remunerations					
Night work	0	0	0	0	1
Overtime	1	2	2	2	7
Kilometres driven	0	0	0	0	1
Total additional costs	**1**	**3**	**2**	**2**	**9**
Total benefits paid	**0**	**0**	**0**	**0**	**1**
TOTAL:	**4**	**12**	**11**	**9**	**36**

Sources: Audited financial reports 2010-2017, Annual Labour Reports, CLA 2011, CLA 2014, CLA 2016, 2011-2017 BDZ Business Plans, Labour Code. Ordinance on the Structure and Organisation of Salaries, Council of Ministers Decree No. 133 of 1993

The analysis of the four Collective Labour Agreements which were in force during the period 2010-2017 shows that 2011 CLA creates the largest financial burden on the employer amounting to EUR 12 mln.

The cost of staff overcapacity. Alike in BSRF, the Zero-Based Budget is used to determine the spare capacity in the company. The budgeting process begins with planning the number of passengers transported, the volume of passenger-kilometres work by individual segments and the revenue for the respective year. Activities that are directly related to the generation of the planned revenue are examined in detail, each activity or process being assessed whether it is necessary for the current format, and what volume and what quality levels should be achieved. The objective is to highlight the excess assets and resources that drive the increase in the cost. The excess staff has been identified for each year, after examining the activities and processes, and depending on the volumes to be released. This excess staff is laid down in the company's business plans as staff to be dismissed. However, due to the restriction of the employer's ability to terminate employment relationships in case of a reduction in the number of posts or reduction of the workload imposed by the collective

agreements, these employees have not been dismissed. After examining the activities and processes in the BSRP, an overcapacity of 3,222 employees was identified for the period 2010-2017.

Table 25. Costs of employees' overcapacity in BSRP 2010 - 2017

(million euro)

INDICATORS	2010	2011	2012	2013	2014	2015	2016	2017	Total 2010-2017
Averagesalary /euro/	333	361	374	376	400	401	426	473	**3 143**
Employees	4 724	6 511	6 197	6 094	6 121	5 898	5 978	5 909	
Overcapacity	**96**	**634**	**691**	**810**	**100**	**471**	**200**	**220**	**3 222**
Cost of overcapacity*	**0**	**0**	**2**	**3**	**1**	**2**	**2**	**1**	**10**

Sources: Audited financial reports, Annual Labour Reports, Business plans of BDZ for the period 2010-2017. The cost of overcapacity is net one and includes: the cost of salaries and social security contributions of the active staff during the period less the benefit due under the CLA.*

In 2011, the management ignored the postulates of the collective labour agreement, and although the trade unions went on strike for 28 days, the management dismissed the overcapacity of employees. For this reason, the company does not bear costs from overcapacity. However, despite the decrease in the volumes of transported passengers during the rest of the period under review, the company did not react promptly, and the optimisation of the staff was determined by the discretion and the will of the trade unions in much the same way that it happened in BSRF. Correspondingly, the overcapacity of 3,222 people for the period 2010-2017 has led to excess costs of EUR 10 mln. What is the effect of these costs on the financial position of the company? The table 26 below shows the KPIs of the company for the period 2010-2017. The overall loss for the period is EUR 29 mln. The debt at the end of 2017 is EUR 43 mln.

(The income for 2015 and 2016 in tables 26 and 27 is different because of the elimination of income from related parties. The decline is mainly because of the reduction of the cards for reduced cost travel, given to the employees of BSRF).

Table 26. Inertial scenario CLA financial burden in BSRF 2010 - 2017

(million euro)

in thousands of euro	2010	2011	2012	2013	2014	2015	2016	2017
Revenue	132	144	135	130	126	127	122	123
Expenses	139	128	95	92	97	99	105	111
EBITDA	-7	16	40	37	29	28	17	12
EBIT	-8	0	3	-1	-4	-1	-6	-4
Net profit	-8	1	1	-5	-6	-5	-2	-4
Equity	2	229	124	59	34	65	76	72
Assets	48	278	276	241	241	220	209	178
Debts	35	25	118	139	123	102	73	43

Sources: Audited financial reports 2010-2017.

Table 27 below shows the outcome of the transformational scenario. If the financial reports were adjusted with the potential savings from (1) the cost Collective Labour Agreements above the Labour Code: EUR 36 mln; (2) the unrealised overcapacity of staff with a cost of EUR 10 mln, and; (3) the reflected decrease in compensation under the PSO contract: EUR 7 mln, the financial result of the company could have been improved by EUR 39 mln. Correspondingly, the loss could have decreased from EUR 29 mln to EUR 9 mln profit; the debts would have decreased from EUR 43 mln to EUR 4 mln; EBITDA would have increased from EUR 172 mln to EUR 211 mln for the entire period.

Table 27. Transformational scenario: no CLA financial burden in BSRP 2010 - 2017

(million euro)

in thousands of euro	2010	2011	2012	2013	2014	2015	2016	2017
Revenue	131	144	135	130	126	124	118	123
Costs	135	123	86	85	90	93	101	107
EBITDA	-4	21	49	45	36	31	17	15
EBIT	-4	5	11	7	3	2	-6	0
Net profit	-4	6	10	3	1	-2	-2	-1
Equity	6	238	142	84	66	100	112	111
Assets	48	278	276	241	241	220	209	178
Debts	32	16	101	114	91	67	38	4

Sources: Adjusted audited financial reports 2010-2017.

Holding Bulgarian State Railways Group

Environmental signals. Despite the decrease in the volumes of transported passengers and goods during the period of reorganisation 2010-2017, the management of BSRG, BSRF and BSRP were not able to react promptly and the will of the trade unions determined the optimisation of staff. Correspondingly, the overcapacity of 6,009 employees (2,787 in BSRF, and 3,222 in BSRP) for the period

has led to excess costs of EUR 20 mln (EUR 10 mln in BSRF and EUR 10 mln in BSRP).

For the entire duration of the four Collective Labour Agreements (2009-2017), the financial burden for the employer above the costs that would have been incurred under the regulations of the Labour Code is EUR 67 mln (EUR 36 mln in the BSRP and EUR 31 mln in the BSRF). Thus, the total extra cost of the four Collective Labour Agreements (2009-2017) was EUR 87 mln.

What is the effect of these costs on company's financial position? The table 28 below shows the KPIs in company's audited financial statements for the period 2010-2017. The overall loss for the period is EUR 134 mln. The debt at the end of 2017 is EUR 206 mln.

Table 28. Inertial scenario CLA financial burden in BSRG 2010 - 2017

(million euro)

in thousands of euro	2010	2011	2012	2013	2014	2015	2016	2017
Revenue	214	224	205	197	193	189	173	177
Costs	188	203	171	159	169	162	168	171
EBITDA	26	21	34	38	24	27	5	6
EBIT	-14	-18	-15	-12	-23	-14	-18	-11
Net Profit	-24	-26	-16	-5	-25	-17	-12	-9
Equity	90	49	30	24	-6	11	41	32
Assets	529	477	444	394	332	325	335	304
Debts	422	398	376	325	287	258	232	206

Sources: Audited financial reports 2010-2017.

However, table 29 below shows the outcome of the transformational scenario. If the financial reports were adjusted annually with the potential savings from the unrealised overcapacity of staff with a total cost of EUR 20 mln the loss would have decreased from EUR 134 mln to EUR 115 mln; the debts would have decreased from EUR 206 mln to EUR 187 mln; EBITDA would have increased from EUR 182 mln to EUR 201 mln for the entire period.

Table 29. Transformational scenario: no overcapacity in BSRG 2010 - 2017

(million euro)

In thousands euro	2010	2011	2012	2013	2014	2015	2016	2017
Revenue	214	224	205	197	193	189	171	177
Costs	186	203	168	154	167	158	165	168
EBITDA	28	21	37	43	26	31	6	9
EBIT	-12	-18	-13	-8	-20	-10	-17	-8
Net Profit	-22	-26	-14	-1	-23	-13	-10	-6
Equity	92	50	34	33	5	26	58	51
Assets	529	477	444	394	332	325	335	304
Debts	420	396	372	316	276	243	216	187

Sources: Adjusted audited financial reports 2010-2017.

In a more optimistic scenario when adjusted financial reports include both: (1) the potential savings from the unrealised overcapacity of staff with a total cost of EUR 20 mln and (2) the financial burden of EUR 67 mln for the costs under the regulations of the Labour Code, the financial position would improve significantly.

Table 30. Transformational scenario: no CLA and overcapacity in BSRG 2010 - 2017

(million euro)

in thousands of euro	2010	2011	2012	2013	2014	2015	2016	2017
Revenue	213	224	205	197	193	186	169	177
Costs	178	194	157	146	155	150	160	163
EBITDA	35	30	48	52	38	36	9	14
EBIT	-5	-9	-2	1	-8	-5	-14	-3
Net Profit	-15	-16	-3	8	-11	-9	-8	-1
Equity	99	67	62	69	53	79	113	112
Assets	529	477	444	394	332	325	335	304
Debts	413	380	345	280	228	190	160	126

Sources: Audited financial reports 2010-2017.

The loss would have decreased from EUR 134 mln to EUR 70 mln; the debts would have decreased from EUR 206 mln to EUR 126 mln; EBITDA would have increased from EUR 182 mln to EUR 262 mln for the entire period.

5.5. COMPARATIVE ANALYSIS OF REORGANISATION SPEED

A Z score calculation could provide information about the effect of the CLAs on the adaptive capability of BSRG when the adaptive capability measures through the effect on the speed of transformation.

BSR – Freight Transportation Ltd.

Table 31 below shows the effect of CLAs on the fitness of BSRF expressed by Z-Score.

Table 31. Z – Score of opacity and resistance in BSRF 2010 - 2017

BSRF	2010	2011	2012	2013	2014	2015	2016	2017
Real Z-Score	0,84	0,72	0,37	0,95	0,40	0,67	0,69	0,69
CLAs Z -Score	1,32	1,06	0,76	1,32	1,38	2,21	3,35	3,69

As the transformational scenario proposes, in the absence of CLAs, the Z-Score of BSRF would have been better for the entire period of the transformation from 2010 to 2017. In 2017, the real Z-Score is 0.69 compared to 3.69 Z-Score in the hypothetical absence of CLAs or 3.0 points difference that is 5.34 times higher than the real Z-Score of BSRF. What is more important, is that if CLAs had not existed in BSRF, the company's Z-Score for the entire period except in 2011 and 2012 would have been above the 1.23 hurdle that indicates that the likelihood of bankruptcy is high. For 2016 and 2017, Z-Score (3.35 and 3.69 respectively) would have been above the 2.9 hurdle, which shows that the enterprise is financially sound. In other words, the transformation of the enterprise would have been completed in 2013, and the company would have been financially sound in 2016.

BSR – Passengers Transportation Ltd.

Table 32 below shows the effect of the CLAs on BSRP's fitness expressed by Z-Score.

Table 32. Z – Score of opacity and resistance in BSRP 2010 - 2017

BSRP	2010	2011	2012	2013	2014	2015	2016	2017
Real Z-Score	2,03	4,38	1,02	0,74	0,51	0,77	0,99	1,38
CLAs Z -Score	2,34	6,78	1,16	0,86	0,78	1,10	1,42	3,68

As the transformational scenario proposes, in the absence of CLAs, the Z-Score of BSRP would have been better for the entire period of the transformation from 2010 to 2017. In 2017, the real Z-Score is 1.38 compared to 3.68 Z-Score in the hypothetical absence of CLAs or 2.3 points difference that is 2.66 times higher than the real Z-Score of BSRP. What is more important, is that if the CLAs had not existed in the BSRP, the company's Z-Score for 2010, 2011, 2016 and 2017 would have been above the 1.23 hurdle, which indicates that the likelihood of bankruptcy is high. For 2017, the Z-Score of 3.69 would have been above the hurdle of 2.9, which shows that the enterprise is

financially sound. In other words, the transformation of the enterprise would have been completed in 2016, and the company would have been financially sound in 2017.

Holding BSR Group Inc.

Table 33 below shows the effect of CLAs on the fitness of BSRG expressed by Z-Score.

Table 33. Z – Score of opacity and resistance in BSRG 2010 - 2017

BSRG	2010	2011	2012	2013	2014	2015	2016	2017
Real Z-Score	0,32	0,22	0,25	0,56	0,09	0,26	0,26	0,40
CLAs Z-Score	0,38	0,34	0,39	0,51	0,41	0,57	0,51	0,79

As the transformational scenario proposes, in the absence of CLAs, the Z-Score of BSRG would have been better for the entire period of the transformation from 2010 to 2017 except in 2013. In 2017, the real Z-Score is 0.40 compared to 0.79 Z-Score in the hypothetical absence of CLAs. In other words, in the absence of CLAs, the Z-Score would have been 98% higher for the Group of companies as a whole. Otherwise speaking, the absence of CLAs would have allowed faster improvement of company's fitness and its faster reorganisation. Correspondingly, the adaptive capability declines in the presence of CLA.

CONCLUSION

Regardless of the environmental shifts and the signals from the market that BSRG should undertake significant reorganisation to recover its going concern status the CLAs act as a pro-inertial force increasing the mortality hazard. Thereby, the CLAs have a significant effect on the adaptive capabilities of the company. The inertial CLAs block and slowdown the transformation of BSRG in the following ways:

1. CLA imposes restrictions on the ability of the managers to reduce overcapacity of employees even when the workload drops sharply.
2. Even when the company is on the verge of bankruptcy, the leadership of the companies could not implement the measures that lead to staff dismissal. There is not enough flexibility in restructuring the troubled enterprise in order to keep it as a going concern.
3. The involvement of trade unions in the process of staff selection and dismissal creates factual difficulties. In effect, the managing companies do not have the

freedom to take independent decisions fully and to implement all the necessary reorganisation-oriented measures in line with the environmental shifts.

4. CLA allows the trade unions' leaders to intervene in human resources management and do not allow the managers to develop an independent human resources policy. These limits have a significant impact on leadership's ability to employ people outside of the company especially in times of reorganisations when one of the ways to reduce inertia is by hiring managers and employees with more open business culture, and higher professional diversity and competences.
5. CLA imposes a significant financial burden on every company in BSRG. The overall financial burden in the case of BSRG was up to EUR 87 mln. A significant part of this extra cost could be eliminated in times of transformations.
6. CLA imposes factual and financial restrictions on the managers' plans to reorganise the company. As a result, the timing of transformation is prolonged, and the cost of change increases additionally. For example, if the extra costs imposed by the CLA had been saved the BSRG would have repaid the debts quicker and would have saved millions of extra interest costs and penalties. That would have speeded up the reorganisations and shortened the timing of changes.
7. Transformational management running the company at the outset of reorganisations adopted CLA that was an attempt to relate human resource policy and regulations to the environmental shifts. This CLA was giving (1) more freedom in designing the human resource strategy and plans, (2) greater flexibility in adapting to market changes and (3) greater flexibility in eliminating internal inefficiency. However, when the transformational management was out of the office for a year and a half, the adopted at that time (in 2014) collective labour agreement reverted to the old practices. Inertia was strong enough to restore all the blockages of the reforms.

The above data confirms the hypothesis that: *"the adaptive capacity of the troubled BSRG to adjust to the environmental shifts declines with the strength of the limits imposed on the company performance by the institutionalised Collective Labour Agreements."*

Chapter Six

Change process, opacity, asperity, and performance

Once environmental drift and internal organisational inertia have compromised the corporate architecture, and the company fitness has been demolished, the reorganisation appears to be the last option for every troubled enterprise. However, the uncertain reorganisation-related outcomes across different industries around the globe raise the issue of how far possible it is to plan a change. Chapter 6 analyses the effects of opacity and resistance on the fitness of the troubled BSRG and reflects the influence on company's adaptive capability and on the reorganisation speed.

6.1. INTRODUCTION

Opacity and Planning

Opacity is a cultural phenomenon measuring decision makers' lack of understanding of units' daily operations. Opacity affects the process of business planning and budgeting. We know that not everything works according to a plan. However, managers try to hide the imperfections of planning. Almost every management has only partial information about what is going on in the organisation that is supposed to be effectively directed by the top. Not surprisingly, the lack of sufficient information has significant influences over planning and decision-making. The organisational intricacy i.e., interconnections between organisational units adds extra complicity to the whole process of designing and implementing reorganisation plans. The deeper the hierarchy, the more intricate is an organisation. Both intricacy and opacity (independent variables) tend to grow with inertia as organisations age. They are higher when they have a substantial adverse effect on the fitness of troubled organisations (the dependent variable) in hectic periods of reorganisations. Opacity and resistance delay the reorganisation and could block the transformation of troubled companies (operationalisation). Opacity and resistance deteriorated the fitness of the troubled BSRG and reduced its adaptive capability as well as the speed of transformation (causal mechanism).

The influence of opacity in the reorganisation process lays down some critical questions: Did the management change the plan? Why did the management modify

the plan? What was easier and what was harder than the management had expected? What was foreseen and what was not foreseen? Were the decision makers aware of the opportunities and were they able to identify them?

In 2010 the top management of BSRG undertook extensive reorganisation originating from a plan for restructuring and stabilisation. Initially, the transformational management had limited understanding of the company, and the organisational learning took place in the process of change. The information that the executives needed was not a secret; the managers did not have it. BSRG at that time was an old, inertial and very opaque organisation. The opacity is pointed out by the fact that: (1) the initial plan was amended several times, (2) new reorganisation measures were built into the plan every year, and (3) a more comprehensive plan was adopted in 2015.

The plans developed by the transformational management allow for studying company's opacity by grouping the restructuring measures by units. The number of ideas at the commencement of the restructuring compared to the number of measures emerging in the process of planning indicates a high level of opacity. The analyses performed present the effects of the opacity on (1) BSRG's financial performance and (2) correlations between planning and timing of change and enterprise's adaptive capability.

Asperity and Resistance

Some of the reorganisation measures undertaken by the top management inevitably violate part of the established organisational codes that specify corporate identities in the three companies that are parts of BSRG. The implementation of these measures unavoidably encounters severe cultural opposition. The reactions to the activities undertaken by the transformational managers stemmed from a variety of sources including railman tradition, trade unions power, and historically established professional norms and routines. The critical fact is that asperity that generated resistance to the implementation of the planned reorganisation-oriented measures violated the financial prospects of the troubled BSRG and prolonged the reorganisation period. The strength of this cultural opposition is difficult to depict. However, its effects can be studied through the effects of the non-implemented and the delayed reorganisation-oriented measures.

Study Hypothesis 3. The adaptive capacity of the troubled BSRG and its subsidiaries, to adapt promptly to the environmental drifts, declines with the strength of its organisational opacity and asperity.

6.2. METHODOLOGICAL AND INFORMATION BASIS

For the analysis of opacity effects, the database was created based on information provided by the three companies on their activities in the period 2010-2017. The data source includes the two strategic plans adopted in 2010 and 2015, company's annual plans, company's financial reports and company's business reports in the period 2010-2017.

The information on the leading indicators gathered is summarised for each calendar year during the period for each company and BSRG as a whole. The total number of planned measures for each of the companies and the expected effect of their implementation for the respective year were identified and analysed. The relative share of the implemented and non-implemented measures was calculated, assessing the effect of their discovery, delayed implementation or non-implementation. Significant groups of reasons for non-implementation of planned measures were summarised. In addition, the available information on the measures taken by the three companies was grouped into several main routes which facilitates the interpretation and comparability of the output data and allows identification of sectors where the predictability, planning, and implementation of the measures are hampered.

Different descriptive statistical techniques were used for the processing and presentation of the data in the study. Part of the collected information in the database was systematised and presented in two-dimensional statistical distributions (cross tables), another with graphical images. A statistical grouping of data was performed on several different parameters characterising the units of the population. A comparative quantitative analysis presents the difference between the actual financial performance of the company and the potential performance in the possible absence of opacity and asperity. Altman Z-Score test, calculated over a number of years, presents the impact of the opacity and the resistance on the fitness of BSRG, allowing conclusions about the speed of transformation and the adaptive capability of the company.

6.3. ANALYSIS OF THE MEASURES TAKEN 2010 - 2017

During the reviewed period 2010-2017, the three companies took a total of 305 measures in the different areas of their activities, 143 of them being introduced by BSRP, 101 by BSRF and 61 by BSR Holding (Fig.40). The measures concern activities such as restructuring, optimisation of processes and activities, optimisation of assets and liabilities, a large part of them relate to the implementation of the companies' investment programme.

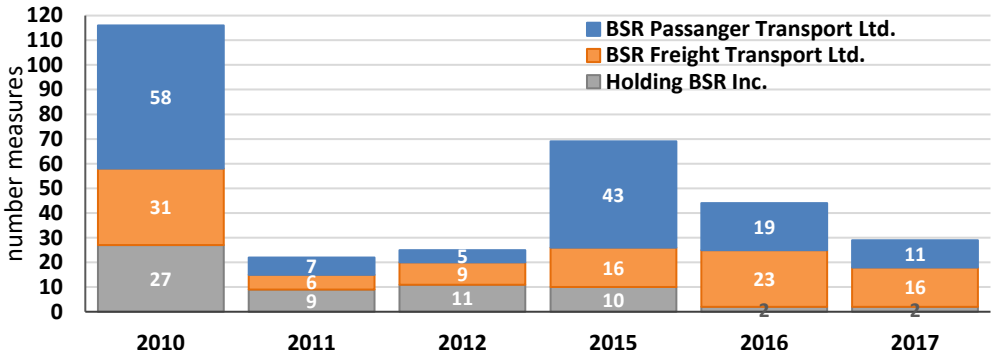


Fig. 40 Distribution of the measures taken broken down by companies and years (in absolute figures)

Figure 40 shows that two three-year sub-periods – 2010-2012 and 2015-2017 – can be determined. The distribution of measures in each of them is relatively equal: 163 measures were adopted during the first sub-period, and 142 were adopted in the second sub-period. In the early years of these sub-periods, large packages of measures were put in place. They were used as a basis for the adoption of two strategic documents.

In 2010, which was practically the first year of reforms in BSRG, the management undertook a broad reorganisation of the activity. The basis for the decisive reforms in the Group during the period 2010 - 2012 was the adopted *Plan for Restructuring and Financial Stabilisation of Holding BSR Inc.* The objectives set in this plan were focused on the financial stabilisation of companies: generation of more revenues, efficient use of funds and strict control of the costs, staff reduction leading to productivity gains, and payment of arrears.

A large part of the measures taken are organisational ones and are aimed at optimising the organisational and management structure, restructuring of activities and processes, improving the coordination between the companies in the group, divisions,

directorates and departments, and at increasing the management capacity. A total of 116 measures was taken in 2010, which makes 71% of the measures provided for the sub-period and approximately 38% of all measures throughout the period under review. Despite the existence of an overall strategy for the period, over the next two years, new measures need to be taken by all three companies. This means that the management team lacked adequate visibility to incorporate those measures into the 2010 core package. The suspension of reforms and postponing of the difficult and unpopular measures in BSRG at the end of 2013 and 2014 are part of the reasons for the deterioration of all main operational and financial indicators of the companies. This, in turn, requires that the company's management should take rapid action and the need to develop and consistently implement a new long-term sustainable strategy for BSRG's stabilisation, financial recovery, modernisation and development.

A new ***Plan for Restructuring and Development of Holding BSR INC. Group for the period 2015-2022*** has been adopted. The implementation of the comprehensive package of measures laid down therein is expected to provide the activity of railway undertaking with a sound financial basis, to ensure its modernisation, and to increase the efficiency and quality of medium and long-term transport services offered. The measures set in this plan mainly focus on optimisation of processes and activities, optimisation of assets and liabilities and an increase of investments. In 2015, BSRG adopted a total of 69 measures, which is 49% of the measures taken for the sub-period and almost 23% of all measures throughout the period under review. The opacity of the organisation is evident from the fact that all three companies introduced additional measures in the next two years. BSRF took, in each of the three years of the sub-period, a relatively equal number of measures (see Fig. 40) indicating increased uncertainty, lower transparency and, hence, hindered predictability of expected effects of introduced measures. The parallel changes set in 2015 Plan of BSRF also require further adjustments and additions, albeit at fading intensity, since the number of added measures is half reduced in each subsequent calendar year. Based on the "number of measures" indicator, it can be argued with greater optimism that the basis for reforms in BSRG plan is adequately set since the new measures introduced in 2016 and 2017 affect current activities related to the reduction of debts and sale of non-operating assets.

The highest relative share of the total number of measures taken during the period 2010-2017 is attributed to BSRP – 47%, followed by BSRF with 33% and BSRH with 20%. The intensity used to adopt the measures during the period under review varies across the different companies (Fig. 41). BSRH took 77% of all measures during the first three-year period, while the proportion of the other two companies was by 50% lower, i.e., more than half of the measures were introduced during the second three-year period.

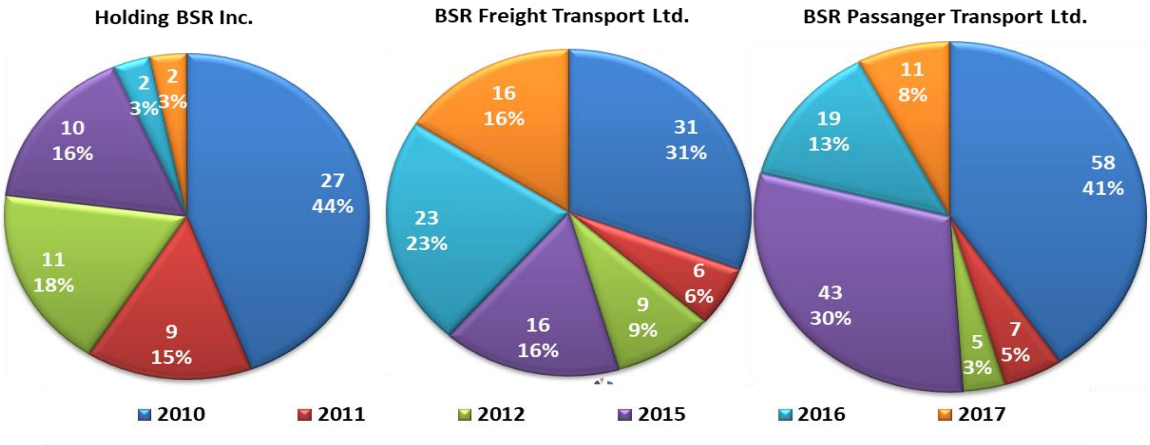


Fig. 41 Distribution of the measures taken during the period 2010-2017 broken down by companies (In absolute figures and %)

The proper planning of measures and their practicability determine whether a plan is successful and predictable, and the extent to which it achieves the expected effects. The higher degree of transparency in an organisation is a prerequisite for the proper identification of problematic areas and taking accurate decisions for their removal. To achieve the expected effect it is necessary to implement on time the entire package of measures. The implementation of 54 of the 305 measures or almost 18% of all measures taken by the three companies during the period 2010-2017 never happened. The proportion of the measures implemented in 2010, on average for the three companies, is the highest: 91% (see Fig. 42). During the period under review, the average proportion of measures implemented by each of the companies is as follows: 84% – BSRH; 83% – BSRP; 81% – BSRF. In the second three-year sub-period 2015—2017, the companies BSRP and BSRF, except BSRH, show a high proportion of non-implemented measures: almost every fourth measure has not been implemented.

Fig. 42 The relative share of implemented and non-implemented measures in total and for each company in the period 2010-2017 (in absolute figures and %)

The main groups of reasons for non-implementation of almost every fifth measure are trade union protection and limitation on the application of Labour Code, lack of will of the middle management and, finally yet importantly, lack of financial investment. As the financial investments depend on the will of the government, it could be concluded that the non-implementation of most of the measures was due to some internal or external resistance. Some of these measures have not been implemented due to the lack of predictability and sufficiently clear justification of the expected effect.

6.4 ANALYSIS OF THE MEASURES TAKEN 2010 - 2017 BY AREAS OF IMPACT

Each of the 305 measures taken by the three companies during the period 2010-2017 affects the activity of a particular sector, with the implementation of individual measures

having an impact on the activity of more than one department in the structure of the particular company. Therefore, the distribution of measures by area of impact leads to a fictitious increase in the actual number of measures. To determine the sectors with the lowest predictability, the dynamics of the measure implementation should be examined, broken down by areas of impact and the level of implementation. The examination will allow defining the areas in which the implemented measures do not have the expected impact. To this end, the available information on the measures taken by the three companies is grouped by main areas depending on the area which the particular measure effects[1].

The aggregated data on the three companies during the period under review shows that, according to the area, which they affect, the measures introduced are distributed as follows: the relative share of the measures introduced in Finance, Marketing, RS, Human Resources, Operation and Information Technologies Department is the highest (see Fig. 43). The total number of measures introduced to these areas account for 68% of all measures taken by the three companies in the post-2010 period.

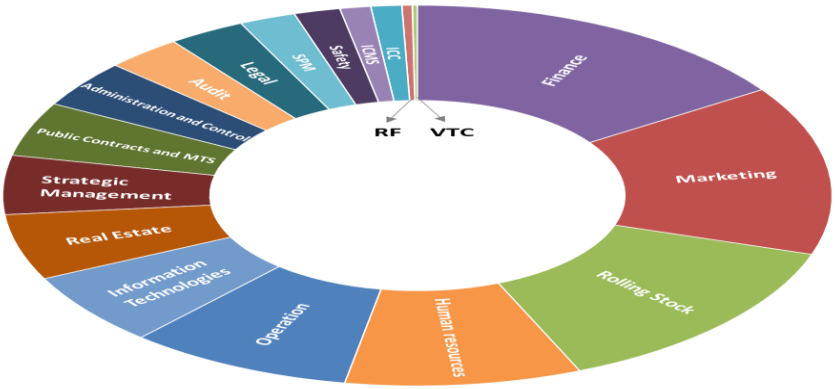


Fig. 43 Relative share of the measures taken by the three companies in the period 2010 -2017 broken down by areas of impact (in %)

Figure 43 shows that several groups are formed depending on the number and area of impact of the planned measures. The first group includes sectors, such as Marketing, RS, and Finance, where the number of measures taken during the period

[1] The main groups of measures broken down by areas of impact include activities in the following departments: Operation Department - measures concerning activities related to Engine Drivers, Conductors, Cleaning, Transport and Control Activity, and Schedule are included; Marketing Department - Ticketing, Communication, Marketing, Products and Prices; Finance; RS - Locomotives, Wagons; Administration and Control - Control of Contracts and MTSp, General Administration, Control, ISCM, QMS;

is around 70, which is the average of ten measures per year for each area during the period under review. The second group includes Human Resources and Operations sectors with just over 40 measures implemented in each of them. 20 to 30 measures are implemented in the sectors of Strategic Management, Public Contracts and MTS, Real Estate and Information Technologies. As regards most of the other sectors, the measures taken are less than 10.

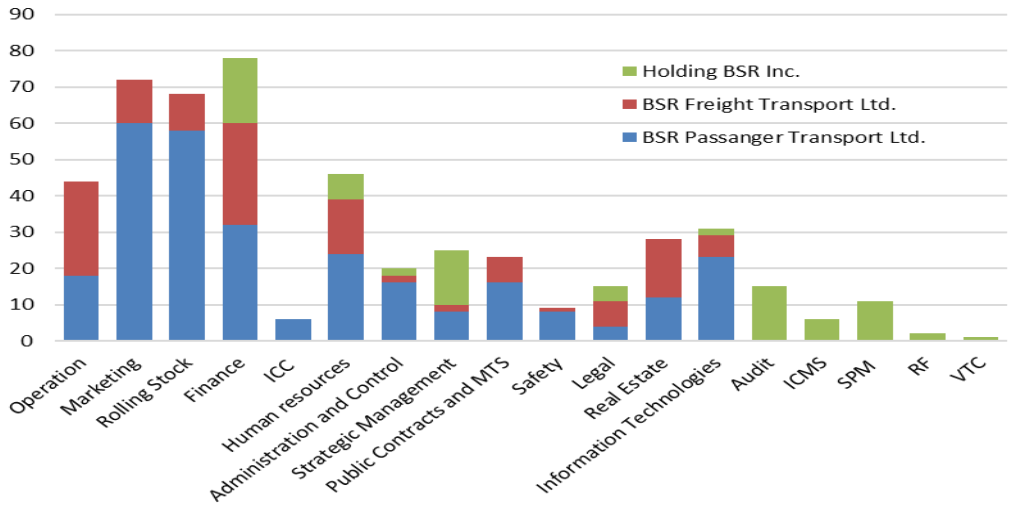


Fig. 44 Distribution of the measures taken by the three companies broken down by areas of impact in the period 2010 - 2017 (in absolute figures)

Depending on the nature of their activity, the distribution of measures among the companies varies as a relative share of the total number of measures in a given area (Figure 45).

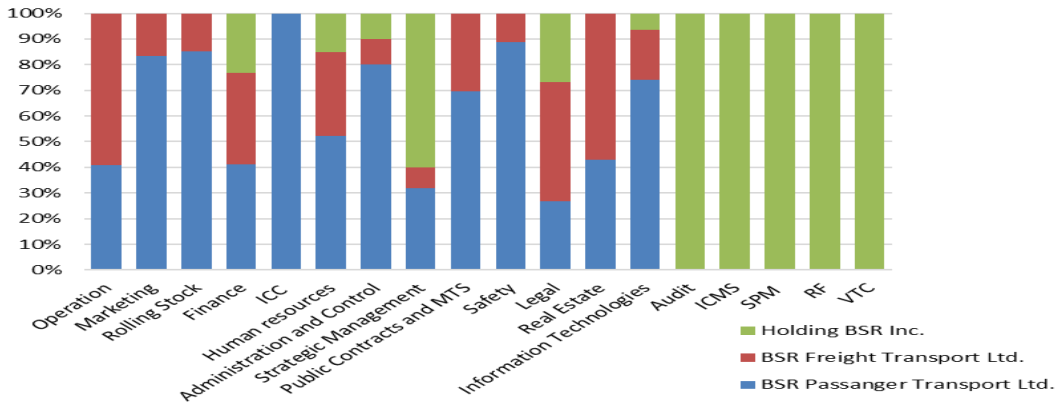


Fig. 45 Distribution of the measures introduced by the three companies in the period 2010 - 2017 broken down by areas (in %)

Specific activities concerning the operation of the companies BSRF and BSRP require some measures to be implemented in sectors such as Operation, Marketing, RS, ICC, Public Contracts and MTS, Safety, and Real Estate. The company BSRP takes a relatively more significant number of measures in most of the examined areas, their proportion being over 80% in the sectors Marketing, RS, Administration and Control, Safety and about 70% in the sectors Information Technologies and Public Contracts and MTS. Exceptions are made for the sectors Operation, Legal and Real Estate, where the relative share of the measures taken by BSRF is higher. On a comparative basis, balance in the distribution of measures between the three companies is observed to a certain extent in the Finance and Legal sectors. At the same time, BSRH has taken both measures related to activities specific to the company, such as activities in the area of QMS, SPM, RF and VTC, and measures affecting the strategic management of the company – almost 60% of all measures in this area. It is also noteworthy that in Audit sector measures have only been taken by BSRH during the period under review.

The intensity of the introduction of measures over the time distributed by area of impact is shown in Fig. 46.

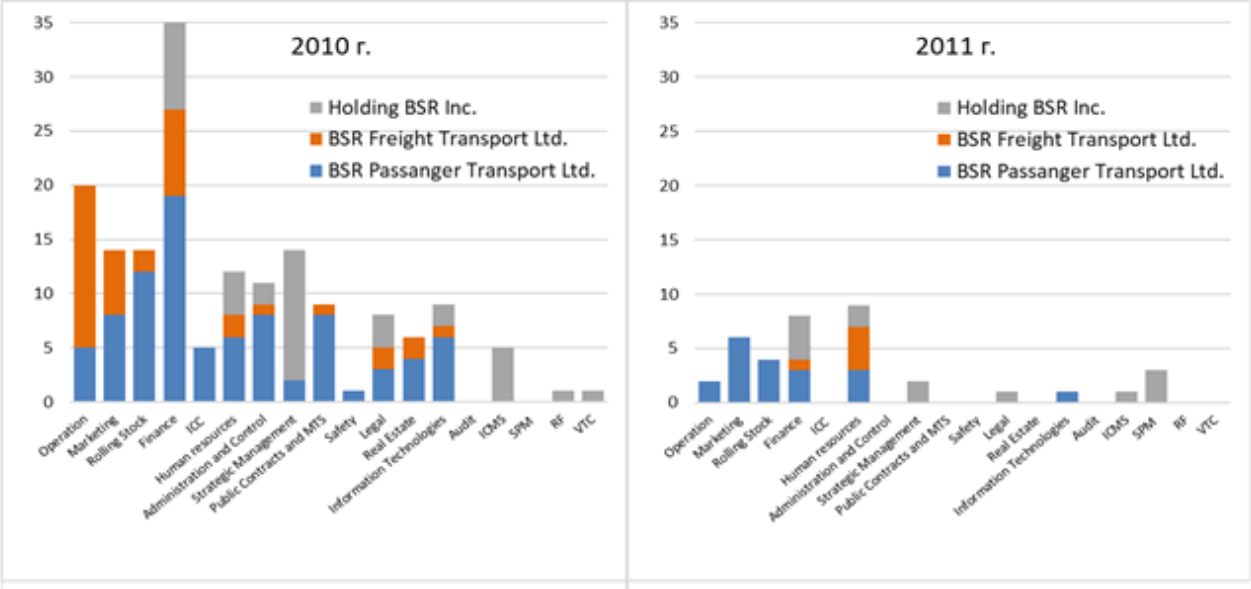


Fig. 46 Intensity of measures over the time distributed by area of impact (in %)

In a period of reorganisation and progressive reforms, some areas where significant changes are made are of particular importance. Expected greater dynamics over time in the introduction of measures are observed in some central areas, with significant differences in the volume and activity between the three companies (Fig. 47).

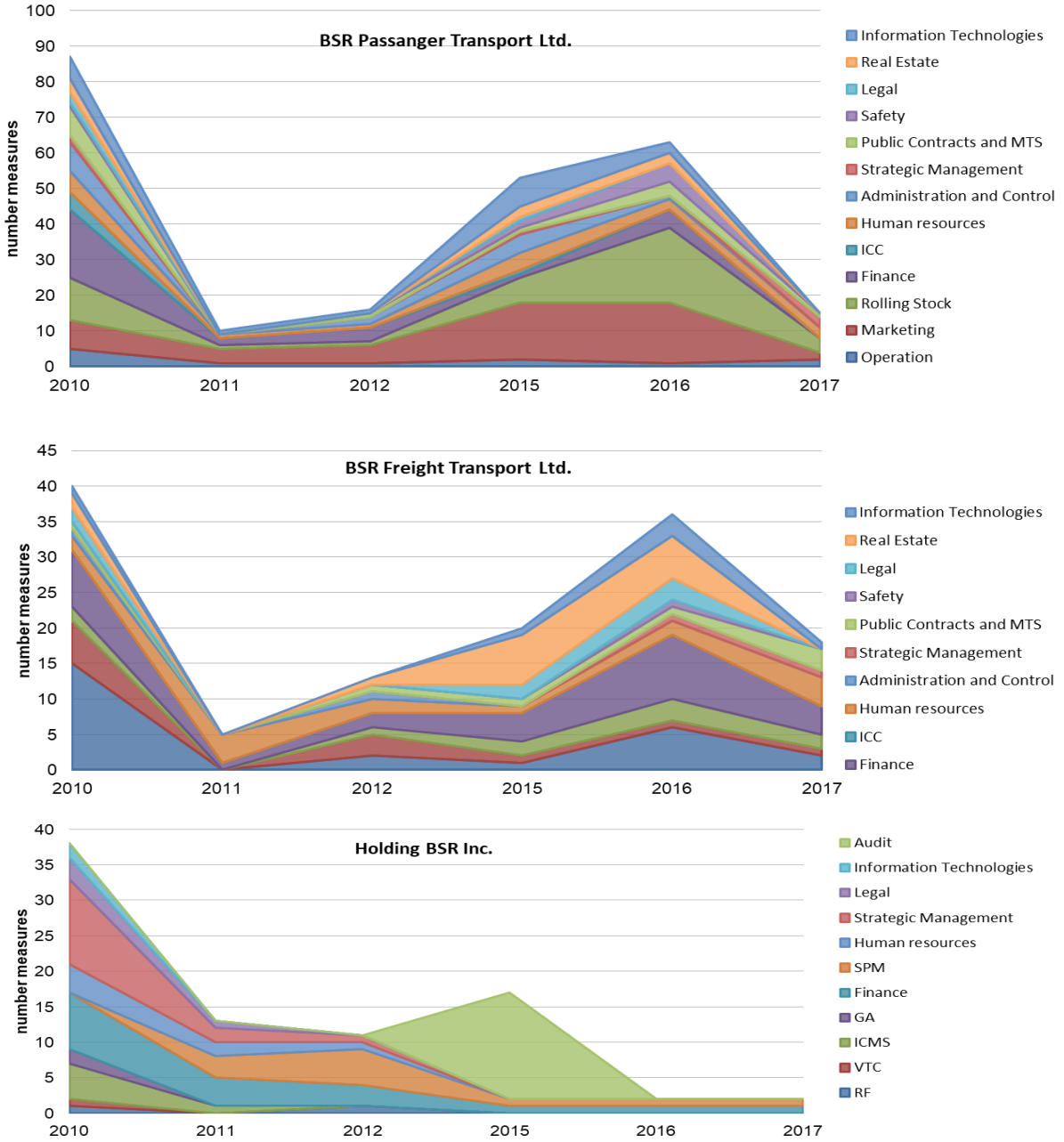


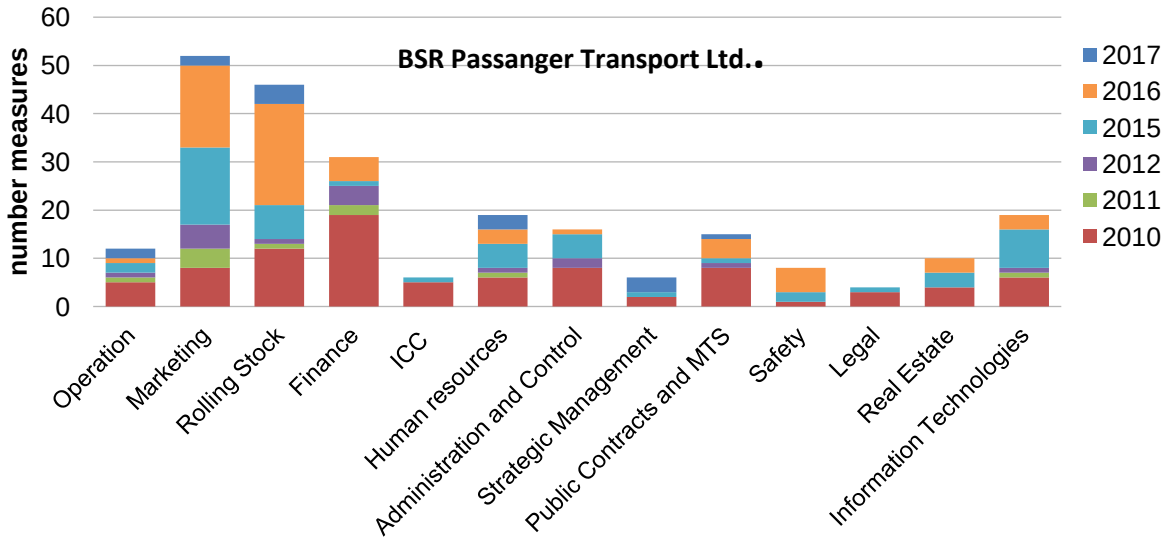
Fig. 47 Distribution of the introduced measures broken down by area of impact for each of the companies in the period 2010-2017 (in absolute figures)

The previous results show that in BSRP, there is a significant increase in the activity of introducing new measures for each calendar year. The process of introducing measures by BSRP in the sectors Marketing, RS and Finance are most intensive in time. For BSRF, these are the sectors Finance, ICC, and Human Resources. In BSRH, the sectors Finance and SPM are the most affected. In the first three years, there is greater dynamics in the Strategic Management and Human Resources sectors, while

in the last three years of the period under review dynamics is reported in the Audit sector.

The accumulation of measures in specific sectors over the years can also be seen in the following graphics (Fig. 48). In some areas, measures are adopted each year of the period under review. As regards BSRF, these are Finance, and Human Resources sectors and new measures have been added to sectors Operation, Marketing, RS, Public Contracts and MTS during five of the six years of the period under review.

The company BSRP adds measures affecting the operation of sectors Operation, Marketing, RS and Human Resources each calendar year, while the sectors where changes are planned on an annual basis during five of the six years of the period are Finance, Public Contracts, and MTS and Information Technologies. BSR Holding implemented measures every year only in the Finance sector. They cover the entire period and are mainly concentrated in its first half, while the measures implemented in SPM sector cover five of the six years in the period 2010 - 2017. Due to the accumulation of additional measures throughout the period, the sectors mentioned above could be defined as more opaque (labour-intensive, featuring lower visibility and transparency), with difficulties affecting to varying degrees each of the companies.



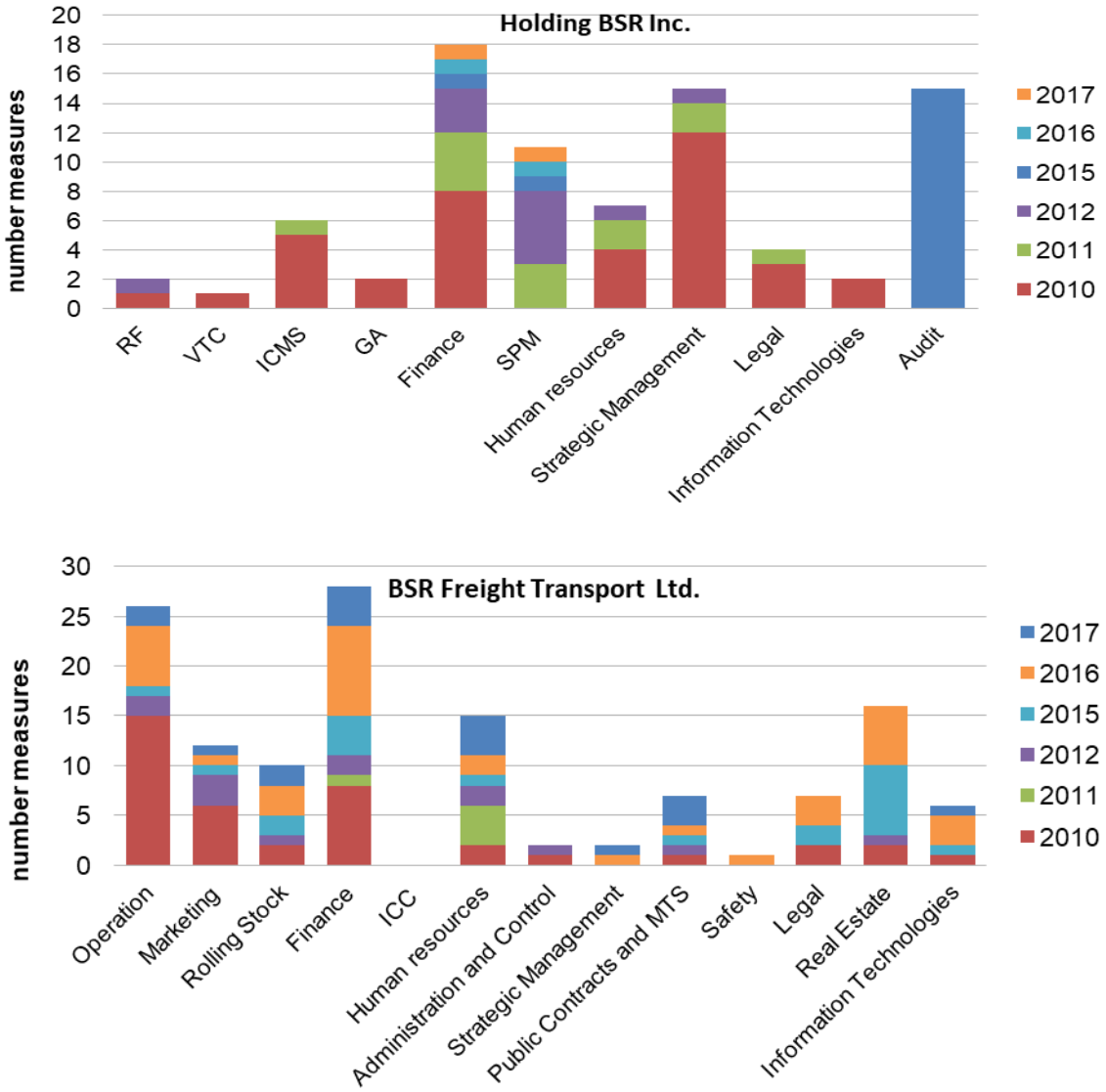


Fig. 48 Distribution of the introduced measures broken down by areas of impact and years (in absolute figures)

In BSRP, the non-implemented measures affecting the activities in sectors Marketing, RS, Finance, IT and HR have the largest share. In BSRF the sectors with a high share of non-implemented measures are Finance, Human Resources, Public Contracts, and MTS and RS. In BSRH the non-implemented measures in the areas of impact are distributed as follows: 3-Finance; 3-Audit; 2-SPM; 1-RF; 1-Strategic Management.

6.5. FINANCIAL EFFECTS OF THE MEASURES TAKEN 2010 - 2017

The Transformational Scenario vs. the Inertial Scenario

The practical applications of two alternative scenarios are presented in the following paragraphs. The transformational (managerial) scenario illustrates the beliefs of the adaptation theory that the executives in the company can adapt the organisation to the environmental shifts. *Adaptation theory* proposes that organisational variability reflects designed changes in the strategy and structure of individual organisations in response to environmental changes, threats, and opportunities. A top executive must be able to anticipate future events and know how to plan for them. (Katz & Kahn, 1978).

The Inertial (ecological) scenario illustrates the theory of opacity and asperity. Opacity reduces the foresight of the executives and planning and implementing process is hindered and prolonged. Asperity, on the other hand, limits the ability of the managers to implement the reorganisation-oriented plans. The mixed effects of the two possible scenarios are illustrated in the rest of the chapter.

The quantitative analysis of the measures taken gives a general idea of the scale of the objectives set, the level of difficulty in determining proper decisions and level of feasibility of the tasks assigned. The level of the measures' success rate can be used to determine whether the measures taken are timely and adequately set and whether their introduction and implementation lead to the expected, planned effect. Some of the measures have an indirect effect that can be assessed in the long term. For this analysis, the measures whose impact can be quantified in financial terms are summarised and analysed. The following groups of indicators have been introduced: overall planned effect of the measures taken, omitted effect of the non-implemented measures, omitted effect of the delay in detection of measures and omitted effect of late implementation. The proper planning can lead to timely detection and implementation of a given measure which results in the desired effect. The measures taken in each calendar year are qualified depending on whether they are timely detected and implemented. If a measure is adopted in a given calendar year, but its identification has been delayed, the lost profits are calculated depending on the length of the delay in the measure identification, the accrued omitted effect being calculated in the year when the measure is identified. The loss accumulated due to delayed implementation of a measure is also accrued to the lost profit for a given calendar year

depending on the period of delay of its implementation. The results obtained are summarised for each calendar year for each of the three companies and are presented as a total for BSRG (see Tables in Appendix 3).

According to the distributions broken down by calendar years, as can be seen in Fig. 49, there is no direct proportion between the number of introduced measures and the magnitude of the expected effect. Due to the different nature of the planned measures, the expected effect of their implementation cannot be subjected to quality assessment and to the assessment of the omitted effects of their non-implementation or late implementation over the time.

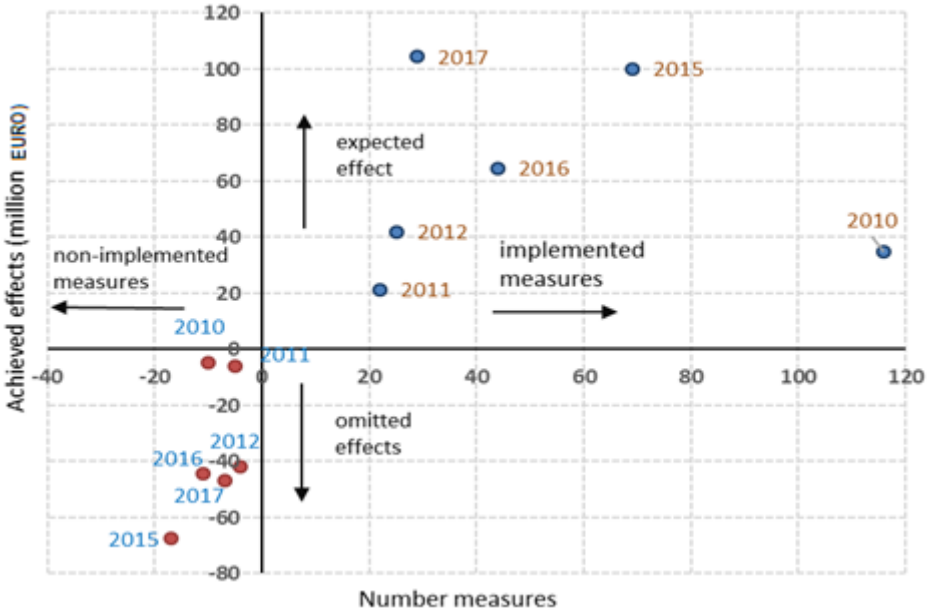


Fig. 49 Planned measures (number) and achieved effects (mln Euro) broken down by years, the total for Holding BSR Ltd. Group

Despite the significantly smaller number of non-implemented measures compared to the number of implemented ones, it is clear that the omitted effects are commensurate with the expected effect from the implementation of all planned measures in a given calendar year. The untimely identification and late implementation of some measures lead to a dangerous accumulation of omitted effects over time. The summary tables in Appendix 3 show that the omitted effects of late implementation and non-implementation of specific measures may be several times higher than the overall planned effect of the implementation of all measures in a given calendar year.

The overall effect for the three companies in the period 2010-2017 amounts to nearly EUR 186 mln. According to the data, this amount is mainly due to the successful implementation of the planned measures in BSRH: nearly 78% of the achieved effect is owed to that company, 15% thereof is owed to BSRF, and 8% of the effect is owed to BSRP (see Fig. 50). Most of the effects achieved by the BSRH are owed to the reduction of the company's debts during the three-year period (2015-2017) - by almost EUR 82 mln, and to the implementation of measures related to the sale of non-operating assets - nearly 16 mln in the last three years.

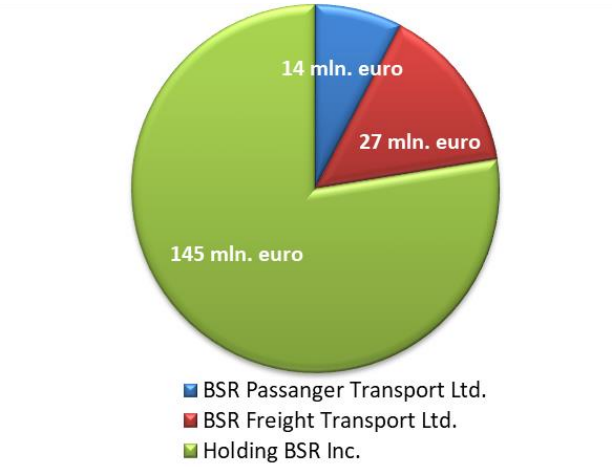


Fig. 50 Effect of the measures taken broken down by companies for the period 2010-2017 (mln EUR)

At the same time, the relation between the achieved and omitted effects is the most favourable for BSRH during the period under review - below 1%. Figure 51 shows that BSRH has minimised the delayed measures, and therefore the lost profits for the company during the period are almost zero. As regards BSRP, the effect of the delayed and non-implemented measures is 33% higher than the overall planned effect of the measures taken. The ratio between these indicators is most problematic in BSRF where the effect of the late identification and implementation of measures exceeds more than three times the result of the effect achieved by the company during the period under review.

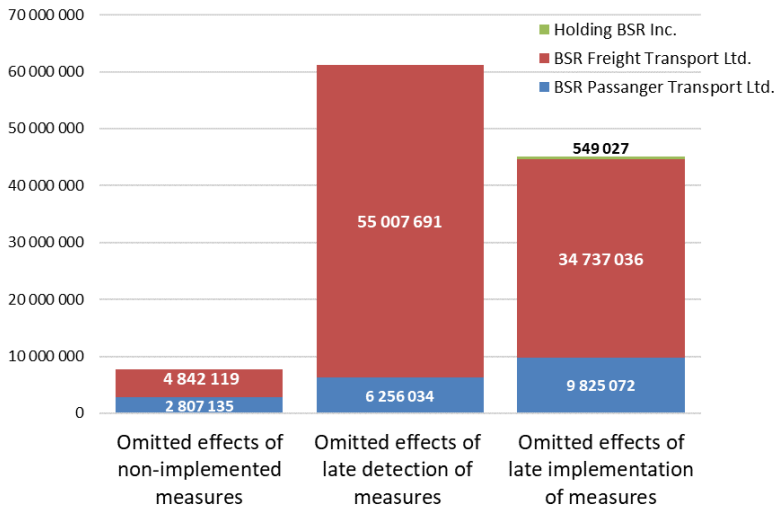


Fig. 51 Omitted effects of non-implemented measures, late detection of measures and late implementation of measures broken down by companies for the period 2010-2017 (mln EUR)

The most severe problem for the company is the late identification of measures, which is the reason for the severe accumulation of omitted effects of the delay, especially during the last three years of the period under review. The length of time from the moment of introduction of a specific measure, or from the optimum moment when the measure was to be identified, until its implementation, is directly related to the achievement of maximum effect of the implementation of the specific measure. The greater delay results in increased lost profits and multiplication of those losses over time.

The Cost of Opacity and Resistance

The costs of opacity are measured by assessing the cost of the delay in the discovery of the measures. In other words, the cost is equal to the foregone opportunities to improve the financial position of BSRG, because the appropriate measures were not discovered on time and therefore not implemented on time. These lost opportunities would come from: (1) what additional income would the company have earned and (2) what expenses would the company have saved if the measures had been discovered and implemented on time. In other words, how would the financial position of each company within BSRG have been financially improved if the organisation had been transparent and the management had been able to plan the reorganisation in an optimal way?

The cost of resistance is measured through (1) the costs of the delay of the implementation of the discovered measures and (2) non-implementation of the discovered measures.

The costs of opacity and resistance are analysed in the three companies and on a group level, i.e., BSRH, BSRF, BSRP and the whole of BSRG. The effects of opacity and resistance are described by incorporating their cost, effects into the financial statements of the respective companies to demonstrate how would the financial position of each company, and the group of companies have improved. The comparative analysis would present insight into the difference between the actual financial position of the three companies and the BSRG, and the potential financial position in case of absence of opacity and resistance. Based on the information derived conclusions are made about the impact of the opacity and the resistance on the adaptive capabilities of the subsidiaries and the group of companies as a whole.

Holding BSR Inc., Individual

The database that was created to analyse the measures undertaken by the management to reorganise the company provides the following information about the effects of the measures in BSRH for the period 2010-2017.

Table 33. Summary Indicators - BSRH

№	Indicators (mln EUR)	2010	2011	2012	2015	2016	2017	Total
1	Total number of measures	27	9	11	10	2	2	61
2	Implemented measures	25	8	7	7	2	2	51
3	Non - implemented measures	2	1	4	3	0	0	10
4	Planned effect of the measures	11	3	13	42	28	48	146

Cost of Resistance (delayed implementation). The delay in measures implementation has an impact on the leading financial indicators of the BSRH for the period. The table below shows that the effect of the implementation delay for the income part amounts to 0.5 mln Euro for 2010-2017. The improvement of the financial result for the Holding would have been 0.5 mln Euros for the period, and the total decrease in indebtedness would have been 0.5 mln Euro, as well. Table 34 below shows the omitted effects of the delayed implementation on the KPIs of BSRH.

Table 34. Cost of resistance BSRH**:** omitted effects of delayed implementation

Financial indicators (mln EUR)	2010*	2 011	2012	2013	2014	2015	2016	2017	Total
Total revenues		63	14	9	8	11	8	8	121
Lost income delayed implementation		-	0,5	-	-	-	-	-	0,5
Total expenses		81	15	10	15	13	24	12	170
Cost of delayed implementation		-	-	-	-	-	-	-	-
EBITDA		7	5	1	(4)	-	(16)	(5)	(12)
EBIT		(10)	4	(1)	(4)	(1)	(17)	(5)	(33)
Net profit		(17)	(1)	-	(7)	(3)	(16)	(4)	(48)
Equity capital		43	42	40	34	27	12	13	13
Total assets		383	353	307	258	218	179	150	150
Total liabilities		339	311	264	224	191	167	137	137
Total reduction of liabilities		-	0,5	-	-	-	-	-	0,5

Source: Adjusted audited financial statements 2010 - 2017 BSRH

**TPS Lokomotiv Ltd. still exists in 2010 and data for an individual report of BSR Inc. is not available.*

***In 2011 the income cannot be compared with the following reporting years as BSR Inc. had income from "transportation organisation and management." The Holding structure is in force as of 2012.*

Cost of Resistance (non-implementation). The benefits omitted due to non-implemented measures amount to 0.5 mln Euro. The income of the Holding for the period under review would have been 0.5 mln Euro more if these measures had been implemented. The equity capital would have been higher with the increase equal to the improvement of the financial result, namely with 0.5 mln Euro. The company indebtedness would have decreased by 0.5 mln Euro. Provided that the planned measures were implemented, the company indebtedness would have been 136.5 mln Euro in comparison to the reported indebtedness of 137 mln Euro at the end of 2017. Table 35 below shows the omitted effects of non-implementation on the KPIs of BSRH.

Table 35. Cost of resistance BSRH – omitted effects of non-implementation

Financial indicators (mln EUR)	2010*	2 011	2012	2013	2014	2015	2016	2017	Total
Total revenues		63	13	9	8	11	8	8	121
Lost income non-implementation		-	-	-	-	-	-	-	-
Total expenses		81	14	10	15	13	24	12	169
Costs of non-implementation		-	0,5	-	-	-	-	-	0,5
EBITDA		7	5	1	(4)	-	(16)	(5)	(12)
EBIT		(10)	4	(1)	(4)	(1)	(17)	(5)	(33)
Net profit		(17)	(1)	-	(7)	(3)	(16)	(4)	(48)
Equity capital		43	42	40	34	27	12	13	13
Total assets		383	353	307	258	218	179	150	150
Total liabilities		339	311	264	224	191	167	137	137
Total reduction of liabilities		-	0,5	-	-	-	-	-	0,5

Source: Adjusted audited financial statements 2010 - 2017 BSRH

**TPS Lokomotiv EOOD still exists in 2010 and data for an individual report of BSR INC. is not available.*

***In 2011 the income cannot be compared with the following reporting years as BSR INC. had income from "transportation organisation and management." The Holding structure is in force as of 2012.*

Total Cost of Opacity and Resistance. Table 36 below shows that the total omitted effect of the delay in measures discovery, non-implementation and delayed implementation during the period 2010-2017 amounts to 1 mln Euro.

Table 36. Total cost of opacity and resistance BSRH – total omitted effects

Indicators (mln EUR)	2010	2011	2012	2013	2014	2015	2016	2017	Total	%
Cost of delayed discovery	-	-	-	-	-	-	-	-	-	-
Cost of delayed implementation	-	-	0,5	-	-	-	-	-	0,5	50%
Cost of non-implementation	-	-	0,5	-	-	-	-	-	0,5	50%
Total:	**-**	**-**	**1**	**-**	**-**	**-**	**-**	**-**	**1**	**100%**

If the measures had been timely discovered and implemented the income of BSRH would have been 1 mln Euro higher for the period under review. With these assumptions, the financial result would have been improved by 1 mln Euro, and the debts would have been reduced by 1 mln Euro, as well. Table 37 below shows the total financial effects in the absence of opacity and resistance in the BSRH.

Table 37. Total financial effects in the absence of opacity and resistance in BSRH

Financial indicators (mln EUR)	2010*	2 011	2012	2013	2014	2015	2016	2017	Total
Total revenues		63	14	9	8	11	8	8	121
Total income lost opacity / resistance		-	0,5	-	-	-	-	-	0,5
Total expenses		81	14	10	15	13	24	12	169
Total cost of opacity /resistance		-	0,5	-	-	-	-	-	0,5
EBITDA		7	6	1	(4)	-	(16)	(5)	(12)
EBIT		(10)	4	(1)	(4)	(1)	(17)	(5)	(33)
Net profit		(17)	-	-	(7)	(3)	(16)	(4)	(48)
Equity capital		43	43	41	34	27	12	13	13
Total assets		383	353	307	258	218	179	150	150
Total liabilities		339	310	264	224	190	166	136	136
Total reduction of liabilities		-	1	-	-	-	-	-	1

Source: Adjusted audited financial statements 2010 - 2017 BSRH

**TPS Lokomotiv EOOD still exists in 2010 and data for an individual report of BSR INC. is not available.*

***In 2011 the income cannot be compared with the following reporting years as BSR Inc. had income from "transportation organisation and management." The Holding structure is in force as of 2012.*

BSR - Freight Transportation Ltd.

The database that was created to analyse the measures undertaken by the management to reorganise the company provides the following information about the effects of the measures on the BSRF for the period 2010 - 2017.

Table 38. Summary Indicators – BSRF

№	Indicators (mln EUR)	2010	2011	2012	2015	2016	2017	Total
1	Total number of measures	31	6	0	9	0	16	62
2	Implemented measures	30	4	8	12	16	5	75
3	Non - implemented measures	1	2	1	4	7	11	26
4	Planned effect of the measures	3	0	7	7	10	1	28

Cost of Opacity (delay in measures discovery). The cost of opacity has a significant impact on the company financial result and indebtedness. Table 39 below shows that the omitted effect of the delay in discovering the measures on the income of the company for the period under review amounts to EUR 3 mln. This means that if the measures had been discovered and implemented on time, the company income would have been EUR 3 mln higher, and at the same time, the costs would have been EUR 43 mln less, i.e., the improvement of the financial results for the period 2010-2017 would have been at the amount of EUR 46 mln. The total decrease of indebtedness would have been EUR 5 mln (41 is attributed to the decrease in the depreciation costs).

Table 39. Cost of opacity BSRF **–** omitted effects of delayed discovery

Financial indicators (mln EUR)	2 010	2 011	2012	2013	2014	2015	2016	2017	Total
Total revenues	79	97	77	78	69	64	53	56	573
Lost income delayed discovery	-	3	-	-	-	-	-	-	3
Total expenses	84	101	82	67	70	59	54	59	576
Cost of delayed discovery	1	5	9	9	9	8	-	-	43
EBITDA	(5)	(2)	(3)	6	-	7	2	1	6
EBIT	(5)	(3)	(4)	4	(2)	4	(1)	(3)	(10)
Net profit	(5)	(4)	(4)	11	(1)	4	(1)	(3)	(3)
Equity capital	(4)	58	60	68	64	65	100	97	97
Total assets	46	116	124	123	119	112	148	145	145
Total liabilities	51	57	64	56	55	47	47	48	48
Total reduction of liabilities	1	2	-	-	-	1	-	-	5

Source: Adjusted audited financial statements 2010 - 2017 BSRF

Cost of Resistance (delayed implementation). The omitted effect due to delay in measures implementation also affects the main financial indicators of BSRF for the period 2010-2017. Table 40 below shows that the effect on the expenses amounts to EUR 14 mln. The improvement of the company financial result for this period would

have been EUR 14 mln, and the total decrease of indebtedness would have been EUR 14 mln. The indebtedness at the end of 2017 amounts to EUR 53 mln, and if the measures had been successfully implemented, it would have been EUR 39 mln.

Table 40. Cost of resistance BSRF – omitted effects of delayed implementation

Financial indicators (mln EUR)	2 010	2 011	2012	2013	2014	2015	2016	2017	Total
Total revenues	79	95	77	78	69	64	53	56	571
Lost income delayed implementation	-	-	-	-	-	-	-	-	-
Total expenses	84	107	88	74	78	65	53	57	605
Cost of delayed implementation	2	-	2	2	2	3	2	2	14
EBITDA	(5)	(4)	-	8	1	9	3	3	15
EBIT	(5)	(11)	(11)	(3)	(10)	(2)	1	-	(42)
Net profit	(5)	(11)	(11)	4	(9)	(2)	-	(1)	(34)
Equity capital	(3)	51	46	46	35	30	66	65	65
Total assets	46	110	110	99	86	71	107	104	104
Total liabilities	50	59	63	54	51	42	41	39	39
Total reduction of liabilities	2	-	2	2	2	3	2	2	14

Source: Adjusted audited financial statements 2010 - 2017 BSRF

Cost of Resistance (non-implementation). The omitted benefits of non-implementation of the measures amount to EUR 39 mln. The company income for the period under review would have been EUR 16 mln (including EUR 15 mln from the sale of assets) higher if the measures had been implemented, and the expenses would have been EUR 23 mln less. The equity capital would have been increased with the amount equal to the improved financial result, namely with EUR 39 mln, and the company indebtedness would have decreased by EUR 37 mln. Under the assumption that the planned measures had been implemented, the company indebtedness would have been EUR 16 mln, compared to EUR 53 mln indebtedness reported at the end of 2017. Table 41 below shows the omitted effects of non-implementation on the KPIs of BSRF.

Table 41. Cost of resistance BSRF – omitted effects of non-implementation

Financial indicators (mln EUR)	2 010	2 011	2012	2013	2014	2015	2016	2017	Total
Total revenues	79	95	77	78	69	68	64	57	587
Lost income non-implementation	-	-	-	-	-	4	11	1	16
Total expenses	85	107	88	73	77	62	49	56	596
Costs of non-implementation	-	-	3	3	3	6	6	3	23
EBITDA	(7)	(4)	-	9	2	12	9	4	25
EBIT	(7)	(11)	(10)	(2)	(9)	1	6	-	(32)
Net profit	(7)	(11)	(11)	5	(8)	5	16	1	(9)
Equity capital	(5)	49	44	46	36	38	90	90	90
Total assets	46	110	110	99	86	70	106	104	104
Total liabilities	52	61	65	54	50	34	17	16	16
Total reduction of liabilities	-	-	3	3	3	10	17	2	37

Source: Adjusted audited financial statements 2010 - 2017 BSRF

Total Cost of Opacity and Resistance. Table 42 below shows that the total effect of delay in measures discovery, delayed implementation and non-implementation during the period 2010-2017 amounts to EUR 99 mln.

Table 42. Total cost of opacity and resistance BSRF

Indicators (mln EUR)	2010	2011	2012	2013	2014	2015	2016	2017	Total
Cost of delayed discovery	1	7	9	9	10	8	-	-	46
Cost of delayed implementation	2	-	2	2	2	3	2	2	14
Cost of non-implementation	-	-	3	3	3	10	17	4	39
Total:	**3**	**7**	**14**	**14**	**14**	**20**	**19**	**6**	**99**

If these measures had been discovered and implemented on time the company income would have been EUR 18 mln (including EUR 15 mln sales of assets) higher, and the total costs EUR 81 mln less (including EUR 40 mln depreciation). Under these assumptions, the financial result would have been improved by EUR 99 mln, and the liabilities would have decreased by EUR 37 mln. Table 43 below shows the total financial effects in the absence of opacity and resistance in BSRF.

Table 43. Total financial effects in the absence of opacity and resistance in BSRF

Financial indicators (mln EUR)	2 010	2 011	2012	2013	2014	2015	2016	2017	Total
Total revenues	79	97	77	78	69	68	64	57	589
Total income lost opacity / resistance	-	2	-	-	-	4	11	1	18
Total expenses	82	101	76	62	65	51	47	54	539
Total cost of opacity /resistance	3	5	14	14	14	16	9	6	81
EBITDA	(3)	(2)	3	11	5	15	11	6	45
EBIT	(4)	(3)	1	9	2	12	8	3	28
Net profit	(4)	(4)	1	16	4	16	18	4	50
Equity capital	(2)	60	67	79	80	93	147	150	150
Total assets	46	116	124	123	119	111	162	164	164
Total liabilities	49	55	57	44	38	19	16	16	16
Total reduction of liabilities	3	2	5	5	5	13	3	1	37

Source: Adjusted audited financial statements 2010-2017 BSRF

BSR – Passengers Ltd.

The database that was established to analyse the measures undertaken by the management to reorganise the company provides the following information about the effects of the measures on the BSRP for the period 2010-2017.

Table 44. Summary Indicators - BSRP

№	Indicators (mln EUR)	2010	2011	2012	2015	2016	2017	Total
1	Total number of measures	58	7	5	43	19	11	143
2	Implemented measures	57	7	5	33	14	8	124
3	Non - implemented measures	1	0	0	10	5	3	19
4	Planned effect of the measures	1	4	1	0	0	2	9

Cost of Opacity (delay in measures discovery). Opacity has a negative impact on company's financial result and indebtedness. The table 45 below shows that there is no omitted effect of the delay in discovering the measures on company's income for the period under review. At the same time, the costs would have been EUR 4 mln less, i.e., the improvement of the financial results for the period 2010-2017 would have been EUR 4 mln. The total decrease of indebtedness would also have been EUR 4 mln.

Table 45. Cost of opacity BSRP**:** omitted effects of delayed discovery

Financial indicators (mln EUR)	2 010	2 011	2012	2013	2014	2015	2016	2017	Total
Total revenues	132	145	140	136	136	137	135	137	1 098
Lost income delayed discovery	-	-	-	-	-	-	-	-	-
Total expenses	136	144	139	141	142	143	137	141	1 123
Cost of delayed discovery	4	-	-	-	-	-	-	-	4
EBITDA	(3)	16	40	37	29	28	17	12	176
EBIT	(4)	-	3	(1)	(4)	(1)	(6)	(4)	(17)
Net profit	(4)	1	1	(5)	(6)	(5)	(2)	(4)	(25)
Equity capital	6	233	129	63	38	69	81	76	76
Total assets	48	278	276	241	241	220	209	178	178
Total liabilities	31	20	114	135	119	98	69	38	38
Total reduction of liabilities	4	-	-	-	-	-	-	-	4

Source: Adjusted audited financial statements 2010-2017 BSRP

Cost of Resistance (delayed implementation). The delay in implementation of the measures also affects the main financial indicators of the BSRP for the period 2010-2017. The table 46 below shows that there is no effect on income due to delay in measures implementation for the period under review. At the same time, the costs would have been EUR 17 mln lower. Under the assumption that the planned measures had been implemented, the improvement of company financial result for the period under review would have been EUR 17 mln, and the total decrease of indebtedness would have been EUR 17 mln, as well.

Table 46. Cost of resistance BSRP – omitted effects of delayed implementation

Financial indicators (mln EUR)	2 010	2 011	2012	2013	2014	2015	2016	2017	Total
Total revenues	132	145	140	136	136	137	135	137	1 098
Lost income delayed implementation	-	-	-	-	-	-	-	-	-
Total expenses	139	140	136	137	142	141	135	140	1 110
Cost of delayed implementation	1	4	3	4	1	2	2	1	17
EBITDA	(7)	20	43	41	30	30	19	13	189
EBIT	(7)	5	5	3	(3)	-	(4)	(3)	(4)
Net profit	(7)	5	4	(1)	(6)	(4)	-	(3)	(12)
Equity capital	3	234	132	71	46	78	92	89	89
Total assets	48	278	276	241	241	220	209	178	178
Total liabilities	34	20	110	128	111	88	58	26	26
Total reduction of liabilities	1	4	3	4	1	2	2	1	17

Source: Adjusted audited financial statements 2010-2017 BSRP

Total Cost of Opacity and Resistance. The table below shows that the total effect *of delay in measures discovery*, non-implementation or delayed implementation of the measures during the period amounts to EUR 21 mln.

Table 47. Total cost of opacity and resistance BSRP

Indicators (mln EUR)	2010	2011	2012	2013	2014	2015	2016	2017	Total	%
Cost of delayed discovery	4	-	-	-	-	-	-	-	4	20%
Cost of delayed implementation	1	4	3	4	1	2	2	1	17	80%
Cost of non-implementation	-	-	-	-	-	-	-	-	-	
Total:	**5**	**4**	**3**	**4**	**1**	**2**	**2**	**1**	**21**	**100%**

If those measures had been discovered and implemented on time, the company operating costs would have been EUR 21 mln less. Under these assumptions, the financial result would have been improved by EUR 21 mln, and the liabilities would have decreased by EUR 21 mln.

Table 48. Total financial effects in the absence of opacity and resistance in BSRP

Financial indicators (mln EUR)	2 010	2 011	2012	2013	2014	2015	2016	2017	Total
Total revenues	132	145	140	136	136	137	135	137	1 098
Total income lost opacity / resistance	-	-	-	-	-	-	-	-	-
Total expenses	135	140	136	137	142	141	135	140	1 106
Total cost of opacity /resistance	4	4	3	4	1	2	2	1	21
EBITDA	(3)	21	43	41	30	30	19	13	193
EBIT	(3)	5	5	3	(3)	-	(4)	(3)	-
Net profit	(3)	5	4	(1)	(6)	(4)	-	(3)	(8)
Equity capital	7	238	136	75	50	83	96	94	94
Total assets	48	278	276	241	241	220	209	178	178
Total liabilities	30	15	106	123	107	84	53	21	21
Total reduction of liabilities	5	4	3	4	1	2	2	1	21

Source: Adjusted audited financial statements 2010-2017 BSRP

Holding BSRG

The database depicting the measures undertaken by the management to reorganise the company provides the following information about the effects of the measures in BSRG for the period 2010-2017.

Table 49. Summary Indicators – BSRG

№	Indikators ('000 EUR)	2010	2011	2012	2015	2016	2017	Total
1	Total number of measures	116	22	25	69	43	29	**304**
2	Implemented measures	112	19	20	52	32	15	**250**
3	Non-implemented measures	4	3	5	17	11	14	**54**
4	Planned effect of the measures	15	7	21	49	38	51	**181**

Cost of Opacity (delay in measures discovery). The delay in measures discovery has an impact on the BSRG financial result and indebtedness. The table below shows that there is no effect of the delay in discovering the measures on the BSRG income for the period under review. At the same time, the expenses would have been EUR 48 mln (including EUR 41 mln reductions of depreciation) less, i.e., the improvement of the financial results for the period 2010-2017 would have been at the amount of EUR 48 mln. The total decrease in debts would have been EUR 7 mln.

Table 50. Cost of opacity BSRG **–** omitted effects of delayed discovery

Financial indicators (mln EUR)	2 010	2 011	2012	2013	2014	2015	2016	2017	Total
Total revenues	216	225	214	217	205	202	189	193	1 662
Lost income delayed discovery	-	-	-	-	-	-	-	-	-
Total expenses	234	245	221	213	221	211	201	202	1 748
Cost of delayed discovery	5	5	9	9	9	9	-	-	48
EBITDA	32	21	35	38	24	28	5	6	189
EBIT	(9)	(13)	(6)	(3)	(13)	(5)	(18)	(10)	(77)
Net profit	(18)	(20)	(7)	4	(16)	(9)	(11)	(8)	(86)
Equity capital	96	60	51	54	33	59	89	81	81
Total assets	529	482	459	418	365	366	376	344	344
Total liabilities	416	392	370	319	281	251	225	198	198
Total reduction of liabilities	6	-	-	-	-	1	-	-	7

Source: Adjusted audited financial statements 2010 - 2017 BSRG

Cost of Resistance (delayed implementation). The lost effect due to delay in measures implementation also affects the main financial indicators of BSRG for the period 2010-2017. The table below shows that the effect on income due to the delay in measures implementation amounts to EUR 1 mln less for the period under review, and the expenses amount to EUR 31 mln. The improvement of company financial result for this period would have been EUR 32 mln, and the total decrease of indebtedness would have been EUR 32 mln. The indebtedness at the end of 2017

amounts to EUR 206 mln, and if the measures had been successfully implemented, it could have been EUR 174 mln.

Table 51. Cost of resistance BSRG – omitted effects of delayed implementation

Financial indicators (mln EUR)	2 010	2 011	2 012	2 013	2 014	2 015	2 016	2 017	Total
Total revenues	216	225	215	217	205	202	189	193	1 663
Lost income delayed implementation	-	-	1	-	-	-	-	-	1
Total expenses	237	247	225	217	228	215	197	198	1 765
Cost of delayed implementation	2	4	5	5	3	4	4	4	31
EBITDA	29	25	41	44	26	31	9	10	214
EBIT	(12)	(14)	(9)	(7)	(20)	(9)	(15)	(7)	(93)
Net profit	(21)	(22)	(10)	-	(23)	(13)	(8)	(5)	(102)
Equity capital	92	55	43	42	14	36	70	65	65
Total assets	529	477	444	394	332	325	335	304	304
Total liabilities	420	392	364	307	267	233	204	174	174
Total reduction of liabilities	2	4	6	5	3	4	4	4	32

Source: Adjusted audited financial statements 2010 - 2017 BSRG

Cost of Resistance (non-implementation). The omitted benefits of non-implemented measures amount to EUR 31 mln. If the measures had been implemented the income for the period under review would have been EUR 8 mln (including EUR 7 mln sales of assets) higher, and the expenses would have been EUR 23 mln less. The equity capital would have increased by an amount equal to the improved financial result, namely by EUR 31 mln, and the company indebtedness would have decreased by EUR 31 mln. Under the assumption that the planned measures had been implemented, the company indebtedness would have been EUR 174 mln, compared to EUR 206 mln indebtedness reported at the end of 2017.

Table 52. Cost of resistance BSRG – omitted effects of non-implementation

Financial indicators (mln EUR)	2 010	2 011	2 012	2 013	2 014	2 015	2 016	2 017	Total
Total revenues	216	225	214	217	205	206	192	195	1 669
Lost income non-implementation	-	-	-	-	-	4	2	1	8
Total expenses	239	250	228	220	227	214	195	199	1 772
Costs of non-implementation	-	1	3	3	3	6	6	3	23
EBITDA	26	21	37	41	27	33	12	9	207
EBIT	(14)	(18)	(12)	(10)	(20)	(8)	(11)	(7)	(100)
Net profit	(24)	(25)	(13)	(3)	(23)	(8)	(3)	(4)	(103)
Equity capital	90	49	34	31	3	30	69	64	64
Total assets	529	477	444	394	332	324	334	302	302
Total liabilities	422	397	373	318	278	239	205	174	174
Total reduction of liabilities	-	1	3	3	3	10	8	4	31

Source: Adjusted audited financial statements 2010 - 2017 BSRG

Total Cost of Opacity and Resistance. The table below shows that the total effect of the delay in measures discovery, delayed implementation and non-implementation of the measures during the period amounts to EUR 111 mln.

Table 53. Total cost of opacity and resistance BSRG

Indicators (mln EUR)	2010	2011	2012	2013	2014	2015	2016	2017	Total
Cost of delayed discovery	6	5	9	9	10	8	-	-	48
Cost of delayed implementation	2	4	6	5	3	4	4	4	32
Cost of non-implementation	-	-	3	3	3	10	8	4	31
Total:	**8**	**10**	**18**	**17**	**15**	**22**	**12**	**8**	**111**

If those measures had been discovered and implemented on time, the income of BSRG would have been by EUR 9 mln higher, and total costs would have been by EUR 102 mln lower (including depreciation worth 40 mln). Under these assumptions, the financial result would have been improved with EUR 111 mln, and the liabilities would have decreased by EUR 71 mln.

Table 54. Total financial effects in the absence of opacity and resistance in BSRF

Financial indicators (mln EUR)	2 010	2 011	2 012	2 013	2 014	2 015	2 016	2 017	Total
Total revenues	216	225	215	217	205	206	192	195	1 671
Total income lost opacity /resistance	-	-	1	-	-	4	2	2	9
Total expenses	232	241	213	205	215	201	191	195	1 694
Total cost of opacity /resistance	8	10	17	17	15	18	10	7	102
EBITDA	34	25	44	47	30	37	16	13	245
EBIT	(6)	(8)	3	5	(8)	4	(7)	(4)	(20)
Net profit	(16)	(16)	2	12	(10)	5	1	(1)	(23)
Equity capital	98	67	66	78	62	102	144	144	144
Total assets	529	482	459	418	365	365	382	355	355
Total liabilities	414	385	354	295	251	208	177	148	148
Total reduction of liabilities	8	5	9	8	6	14	5	2	57

Source: Adjusted audited financial statements 2010 - 2017 BSRG

6.6. OPACITY, RESISTANCE, AND THE SPEED OF REORGANISATION

A Z score calculation could provide information about the effect of the opacity and the resistance on the adaptive capability of BSRG and its subsidiaries when the adaptive capability is measured through the effect on the speed of transformation.

BSR – Freight Transportation Ltd.

The table 55 below shows the effect of opacity, resistance and the combined effect of both on the fitness of BSRF expressed by Z-Score.

Table 55. Effects of opacity and resistance on the Z-Score of BSRF

BSRF	2010	2011	2012	2013	2014	2015	2016	2017
Real Z-Score	0,84	0,72	0,37	0,95	0,40	0,67	0,69	0,69
Z-Score Opacity	1,00	1,05	0,73	1,29	0,93	1,16	1,09	1,08
Z-Score Resistance	1,01	0,76	0,63	1,33	0,96	2,24	3,81	3,49
Z-Score Opacity and Resistance	1,47	1,25	1,20	1,88	1,64	3,20	4,71	4,49

In the absence of opacity, the Z-Score of BSRF would have been better for the entire period of the transformation from 2010 to 2017. In 2017, the real Z-Score is 0.69 compared to 1.08 Z-Score in the hypothetical absence of opacity or 0.39 points difference that is 57% from the real Z-Score of BSRF. Similarly, in the absence of resistance, the Z-Score of BSRF would have been better for the entire transformation period. What is more important is that if the resistance had not existed in the BSRF, the company's Z-Score 2015, 2016 and 2017 would have been 2.24, 3.81, and 3.49, or well above the 1.23 hurdle that indicates that the likelihood of bankruptcy is high. For 2016 and 2017, the Z-Score would have been above the hurdle of 2.9, which shows that the enterprise is financially sound. In other words, the transformation of the enterprise would have been completed in 2016. Considering the combined effect of the absence of opacity and resistance, the Z-score in 2015 would have been 3.20 or above 2.9 hurdles showing that the company is sound. Moreover, the transformation would have been completed in the same year. In 2016 and 2017, the Z-score would have been 4.71 and 4.49 that is above the hurdle of 4.14 as an average for non-bankrupt companies.

BSR – Passengers Transportation Ltd.

Table 56 below shows the effect of the opacity, resistance and the combined effect of both on the fitness of BSRP expressed by Z-Score.

Table 56. Effects of opacity and resistance on the Z-Score of BSRP

BSRP	2010	2011	2012	2013	2014	2015	2016	2017
Real Z-Score	2,03	4,38	1,02	0,74	0,51	0,77	0,99	1,38
Z-Score Opacity	2,40	5,44	1,06	0,77	0,54	0,82	1,06	1,53
Z-Score Resistance	2,12	5,52	1,12	0,88	0,61	0,94	1,30	2,20
Z-Score Opacity and Resistance	2,50	7,28	1,17	0,92	0,65	0,99	1,41	2,66

In the absence of opacity, BSRP's Z-Score would have been better for the entire period of the transformation from 2010 to 2017. In 2017, the original Z-Score is 1.38 compared to 1.53 Z-Score in the hypothetical absence of opacity. Similarly, in the absence of resistance, the Z-Score of BSRP would have been better for the entire transformation period. What is more important, is that if the resistance had not existed in BSRP, the company's Z-Score in 2016 and 2017 would have been 1.30, and 2.20 or well above the 1.23 hurdle, which indicates that the likelihood of bankruptcy is high, while the original Z-Score in 2016 is 0.99. In 2017, the Z-Score would have been 2.20 or much closer to the hurdle of 2.9 showing that the enterprise is financially sound compared to

the original Z-Score of 1.38. Considering the combined effect of the absence of opacity and resistance the Z-score in 2017 would have been 2.66 or much closer to 2.9 hurdle showing that the company is sound. Moreover, the transformation would have been almost completed in the same year.

BSR – Holding Inc. Group

The table below shows the effect of opacity, resistance and the combined effect of both on the fitness of BSRG expressed by Z-Score.

Table 57. Effects of opacity and resistance on the Z-Score of BSRG

BSRG	2010	2011	2012	2013	2014	2015	2016	2017
Real Z-Score	0,32	0,22	0,25	0,56	0,09	0,26	0,26	0,40
Z-Score Opacity	0,36	0,27	0,33	0,64	0,24	0,40	0,35	0,50
Z-Score Resistance	0,33	0,26	0,43	0,70	0,26	0,59	0,65	0,88
Z-Score Opacity and Resistance	0,38	0,32	0,51	0,78	0,40	0,72	0,73	1,01

In the absence of opacity, the Z-Score of BSRG would have been better for the entire period of the transformation from 2010 to 2017. In 2017, the real Z-Score is 0.40 compared to 0.50 Z-Score in the hypothetical absence of opacity.

Similarly, in the absence of resistance, the Z-Score of BSRG would have been better for the entire transformation period. In 2017, the original Z-Score is 0.40 compared to 0.88 Z-Score in the hypothetical absence of resistance. In other words, in the absence of resistance, the Z-Score would have been 120% higher for the Group of companies as a whole. Considering the combined effect of the absence of opacity and resistance the Z-score in 2017 would have been 1.01 or 153% higher than the original score of the group of companies. In other words, the absence of opacity and resistance would have allowed faster improvement in the fitness of the company or faster reorganisation thereof. Correspondingly, the adaptive capability declines in the presence of opacity and resistance.

CONCLUSIONS

1. By the reviewed indicators, although the comparison between the three companies is not entirely correct due to the different functions they perform, a conclusion may be drawn that the measures were taken and the development plan has been most effectively implemented in BSRH.
2. For each of the three companies, the intensity of adopting the measures during the period under review is different, but every year new reorganisation measures are introduced in the original plan. This is a clear indication of the opacity of the organisation.
3. The adopted 2010 Restructuring Plan of Holding BSR Inc. Group was amended several times, and in 2015, a new, more comprehensive development plan was adopted. This is another confirmation of that company's opacity.
4. The lack of transparency is also evidenced by the data on the number of delayed measures. The financial estimates show that the late identification of measures and the delay in implementation of specific measures are the main reasons for the delay of the reforms and the lack of satisfactory results from some of the changes.
5. The identification of the areas where the cascade of adopting follow-up measures as a result of difficulties in the full and timely definition of the problem areas shows that, as regards the three companies, sector Finance and a few other company-specific sectors are the main ones which also defines them as sectors with higher level of transparency and traceability.
6. The total cost of opacity in the companies making part of Holding BSRG is EUR 62,125,000. The omitted effects of timely discovery and implementation of the restructuring measures have a significant influence on the financial position of each company and the whole group.
7. The total cost of resistance in the companies that are part of BSRG is EUR 69,051,000. The delay of the implementation or non-implementation of restructuring measures also has a significant effect on the financial position of each company and the whole group.
8. The opacity and resistance have a significant effect on the speed of reorganisation in BSRG and its daughter companies. If BSRF were free of opacity and resistance

the transformation of the company from a troubled one (Z-Score 0.84) to a having not high likelihood of bankruptcy (Z-Score above 1.23) would have taken four years (from 2010 to 2013 when the Z-Score is 1.88) and from a troubled one to sound financially (Z-Score above 2.9) would have taken six years (from 2010 to 2015 when the Z-Score is 3.2). Even more, the company would achieve the average for non-bankrupt companies (Z-Score 4.14) in seven years (from 2010 to 2016 when the Z-Score is 4.71). In the existence of opacity and resistance, the company did not reached the status of the relatively low likelihood of bankruptcy in 2017 when the original Z-Score was 0.69.

9. The transformation of BSRP would have taken one year less to recover from a troubled company to a company not having a high likelihood of bankruptcy. The original Z-Score in the existence of opacity and resistance goes above 1.23 in 2017 when it is 1.38. In the absence of opacity, it would have happened in 2016 when the Z-Score was 1.41. What is more, in the absence of opacity and resistance the Z-Score being 2.66 in 2017 would have been very close to the status of the financially sound company: 2.9.
10. The transformation of BSRG would also have been quicker in the absence of opacity and resistance as the Z-Score would have been 1.01 compared to the original Z-Score of only 0.40 in 2017 in the presence of opacity and resistance.

The above data confirms the hypothesis that the adaptive capacity of the troubled BSRG and its subsidiaries, to adapt in a timely manner to the environmental drifts, declines with the strength of its organisational opacity and asperity.

Chapter Seven

Conflicting stakeholders' demands and BSRG adaptive capabilities

The conflicting demands of the internal and the external audience influence the reorganisation of BSRG. Chapter 7 illustrates the adverse effects of stakeholders' conflicting demands on the financial performance of BSRG in the crisis generation and in the reorganisation period. Two possible scenarios are analysed and compared quantitatively: (1) the inertial scenario illustrates the effects of the conflicting demands and (2) the transformation scenario illustrates the alternative option proposed by the management at the launch of the reorganisation but implemented only partly because of the resistance of the internal and the external audiences.

7.1. INTRODUCTION

As the institutionalisation theory prescribes, the Bulgarian State Railways Inc. Group operates within multiple institutional spheres and is subject to multiple conflicting institutional demands. By the end of 2009, the enterprise had the status of a troubled company, and its financial fitness made compliance impossible: satisfying the demands of some of the members of the internal and the external audiences required defying the demands of the others.

Institutional demands penetrate the organisational boundaries of the BSR Holding Group and its subsidiaries through the two known mechanisms:

1. The external actors located outside of the organisation (Government, European institutions, creditors, suppliers and clients) exercised external compliance pressures on the organisation using resource dependence relationships;
2. The internal actors (trade unions, managers and staff) conveyed the internal institutional demands by promoting practices, standards and values that they have been trained to follow or have been socialised into inside or outside the BSRG. The actions of those organisations' members reflected their understanding of what the appropriate goals of BSRG were, as well as the appropriate means to achieve these goals.

The intensity of the conflicting institutional demands in BSRG is higher when they have significant control over decision-making and a substantial negative impact on the fitness of the organisation. The strength of the conflicting stakeholders' demands (independent variable) in a situation when the troubled enterprise demanded reorganisation (control variable) influence the fitness of the company (dependent variable) as conflicting institutional demands limited decision-making and execution options of managers (operationalisation). When conflicting institutional demands were solid, the company's fitness deteriorated (causal mechanism).

The stakeholders of BSRG influenced the organisation throughout the whole period 2002-2017 that is taken into account in the research. The effect of the stakeholders' behaviour on the company is separated into two phases: (1) the period between 2002 and 2009 when the crises aroused and (2) the period of the reorganisations between 2010 and 2018.

Hypothesis 4. The adaptive capacity of the troubled Bulgarian States Railways and the speed of transformation declined with the intensity of conflicting institutional demands presented by the key members of the external and the internal audience.

7.2. METHODOLOGICAL AND INFORMATION BASIS

For the analysis of the effects of the conflict stakeholders' demands on the adaptive capabilities of BSRG, the data is collected based on the information provided by the three companies for the period 2002-2017. The data source includes the audited annual financial statements, the strategic plans adopted in 2010 and 2015, the collective labour agreements and the business reports by the company in the period 2002—2017, the annual reports for PSO contract for the period 2002—2010, and the borrowing contracts with financial institutions and other operating reports.

The information on the leading performance indicators is summarised for each calendar year during the period, for every company and BSRG. The role of each stakeholder in driving the crisis of BSRG and its subsidiaries is analysed, and information about the financial magnitude of the influence is presented. Comparative analyses describe the financial position of the company as it was before the outset of the transformation and as it would be without the adverse effect produced by the stakeholders.

Autoethnographic approach and content analysis of documents such as plans, budgets, and reports present the conflicting goals and concerns of the stakeholders at the launch of the reorganisation. Content analysis of documents describes the activities of the stakeholders and the communication with them during the entire reorganisation process.

The comparative quantitative analysis would depict the difference between the actual financial performance of the company and the potential performance if the scenario proposed by the transformational management had taken place (in the absence of conflicting stakeholders' demands). The comparative analysis provides data about stakeholders' impact on the adaptive capability and the speed of reorganisation of BSRG.

7.3 ROLE OF STAKEHOLDERS FOR THE CRISIS OF BSRG

The Role of the Employees

The employees did not undertake any action that was influencing the BSRG directly. However, the fact that the company was massively overstaffed was by itself a heavy burden. At the beginning of reorganisations, in 2010, overcapacity was approximately 6,600 out of a total 15,439 employees. 6,000 employees represent almost 43% of all the employees in the organisation. The total excess cost accumulated for the entire period 2002-2010 because of the excess labour capacity is € 171 mln (BSRG, Financial Statements 2002-2010).

The Role of the Trade Unions

Before the beginning of the reorganisations, the trade unions had overwhelming power in BSRG. They were enjoying full control over the recruitment process from bottom to top, including the last CEOs; almost every management's decision was agreed with them, and the union leaders occupied offices next to those of the top management; the membership fee of € 240,000 per annum was directly deducted from the salaries of the workers and transferred to the trade unions' accounts; the cost of the collective labour agreement was a heavy financial burden for the company. The trade unions guaranty that employees would not be fired and by doing so, they protected the redundant staff of the company (BSRG Collective Labour Agreements 2007 and 2009).

The trade unions expected that the company would continue providing the services to the public (BSRP) and the business (BSRF) regardless of the accumulated internal inefficiencies and regardless of the imposed restrictions on management's actions.

The Role of the Government

The Government as an owner of BSR and the primary source of finance for the passengers' side of the business had a significant role in driving the crisis of the enterprise.

1. The BSR Passengers Transportation Ltd. incurred direct losses due to reported under-financing by the Government for the execution of the contract for the provision of public transport services in the period 2002-2010. The loss, calculated as the difference between the compensation received for the period (subsidies) and expenses made on public transport services for the period amounts to EUR 150 mln (Annual reports PSO contract 2002-2010).

The Table 58 below shows the amount of underfinancing by year from 2002 to 2009.

Table 58. BSRP underfinancing

million euro	2002	2003	2004	2005	2006	2007	2008	2009	Общо
underfinancing	26	13	9	23	25	10	23	20	150

Sources: (Annual reports PSO contract 2002-2010).

2. In 2005 and 2007 new rolling stock were purchased via a bank loan for EUR 186 mln (BSR loan contracts 2002-2008). This borrowing was very risky since the very beginning, as the subsidised part of any business could not generate enough cash proceeds for repayment of debts. Usually, the money for investments in new rolling stocks come from the state budget. In other words, the government was meant to provide the funds for the investment in the newly purchased rolling stock instead of burdening the company with the borrowing from banks. The debt intended for the purchase of new rolling stock represented 63% of the borrowings, and the overall banking debts grew up from EUR 31 mln to EUR 296 mln (BSRH, Annual Financial Statements 2002-2010). Table 59 below shows the amounts borrowings from 2002 to 2009.

Table 59. BSRG borrowings

million euro	2005	2006	2007	2008	2009	Total
Loans	16	0	1	156	14	186

Source: (Audited financial statements of BSRG 2005-2009)

The above data clearly illustrates that the government did not provide the necessary funds for the operations of the state-owned enterprise BSRG as they had another priority and the development of the railways was not among them. At the same time, government's expectations were that the company would continue providing the services to the public (BSRP) and the business (BSRF).

Comparison between the KPIs of BSRG for the period 2002-2009 and the alternative KPIs of BSRG had the government finance the company adequately and provided the funds for the purchase of the new rolling stock (practice in the railway companies) demonstrates the effect of the governmental policy on the crisis of BSRG. Table 60 below shows the key performance indicator of BSRG for the period 2002-2009.

Table 60. BSRG key performance indicators 2002-2009 underfinancing

million euro	2002	2003	2004	2005	2006	2007	2008	2009
Financial indicators								
Revenue	203	214	214	222	244	279	279	223
Costs	225	222	204	219	226	235	241	199
EBITDA	**-21**	**-8**	**10**	**3**	**18**	**45**	**38**	**24**
EBIT	**-35**	**-23**	**-6**	**-15**	**-4**	**19**	**6**	**-22**
Net profit	**-23**	**-17**	**-5**	**-14**	**-7**	**23**	**-4**	**-34**
Equity	52	35	18	12	18	117	140	120
Current assets	45	45	53	79	73	106	118	122
Total assets	162	160	188	239	188	404	578	564
Current liabilities	51	59	83	148	175	108	157	172
Debts	101	116	162	213	255	278	431	434

Source: (Audited financial statements of BSRG 2002-2009)

The table shows that the BSRG generates losses almost every year during the period under consideration. The total loss is EUR 81 mln; the total EBITDA is EUR 109 mln and the total debts amount to EUR 434 mln.

If the company had received the financing that was relevant for the provided transportation services and the purchase of the new rolling stock was financed with an investment form the government, the KPI would have been considerably different. Table 61 below shows the KPIs based on this scenario.

Table 61. BSRG key performance indicators 2002-2009 without underfinancing

million euro	2002	2003	2004	2005	2006	2007	2008	2009
Financial indicators								
Revenue	229	228	223	245	269	291	310	258
Costs	225	222	204	219	225	235	237	193
EBITDA	**5**	**6**	**19**	**26**	**44**	**57**	**73**	**65**
EBIT	**-8**	**-10**	**3**	**8**	**22**	**31**	**40**	**18**
Net profit	**3**	**-4**	**4**	**9**	**19**	**35**	**30**	**6**
Equity	79	127	67	100	132	242	449	464
Current assets	45	45	53	95	89	134	317	352
Total assets	162	160	188	254	205	432	789	810
Current liabilities	25	19	34	76	78	78	78	78
Debts	75	76	113	130	141	152	123	89

Source: (Adjusted audited financial statements of BSRG 2002-2009)

Instead of a total loss of EUR 81 mln, the company would have generated a profit of EUR 102 mln; the total EBITDA would have gone up to EUR 295 mln, and the total debts would have gone down to EUR 89 mln.

The Role of the Banks

Major international banks loaned EUR 270 mln to the enterprise for the period 2002-2009. The first repayment was due by the end of 2009. However, the development of the crises of BSRG proves that the banks did not do careful risk analysis because the overdue amount in 2009 was EUR 11 mln, and EUR 37 mln in 2010. Even the payment of interest was under question in 2010. (BSRH Annual Financial Statements 2002-2009).

The above data clearly illustrates that the banks did underestimate the risks that the enterprise could face at that time. They expected to earn good interest on the funds provided, believing that a state enterprise would not have troubles paying the interest and the principal as it was scheduled. The lending financial institutions were so confident and eager to profit that they even did not consider it as a problem that a state guaranty was not included in the contracts with BSRH (Loan contracts 2002-2008).

The role of the Management

The inertial management played a crucial role in generating the crises in the BSR.

1) The management of the BSR did not anticipate the need for change. The market conditions in the country were changing. The competition from road transport significantly reduced the number of passengers traveling by train. Table 66 below

presents the number of transported passengers from 2002 to 2009. In 2009, BSRP transported 6 mln passengers less compared to 2004. (BSRH, KPI 2002-2018)

Table 62. BSRP transported passengers

in million	2002	2003	2004	2005	2006	2007	2008	2009
Transported passangers	33 719	35 206	38 283	33 748	34 113	33 283	33 758	31 360

Source: (Audited financial statements of BSRP 2002-2009)

New private competitors entered in the freight rail transportation market. A significant part of the rail freight transport moved to road transportation. The industry structure was changing and one of the biggest clients of BSRF, the largest metallurgical company in Bulgaria, Kremikovtsi, went bankrupt in the middle of 2008. Kremikovtsi's share was about 20-25% of BSRF's total transported freight. As a result of its bankruptcy, the company suffered losses representing the value of pending recoveries for completed rail transport services amounting to a total of EUR 7 mln (BSRF operational statistics 2005).

2) The inertial management did not undertake any reorganisation in order to adapt the company to the changing environmental conditions. In the company archives, there is no business plan considering any reorganisation of the company designed within the period 2002-2009.

3) The inertial management did not undertake any actions to reduce operating cost, decrease the overcapacity of employees and avoid generating loses year after year in BSRG and its subsidiaries. The total loses of BSRG generated from 2002 to 2009 was EUR 85 mln (BSRG Financial Statements 2002-2009).

4) The inertial management was not able to communicate the financial needs of the enterprise with the governmental institutions. Instead, the management took several loans in order to purchase new rolling stock, fill in the existing cash deficits, repay part of the overdue loans, and maintenance part of the existing rolling stock. The overall debt grew up 3.27 times from € 100 mln in 2002 to € 434 mln in 2009 (BSRH Financial Statements 2002-2009).

5) As a result of management's inactivity in 2005, the price of 25 EMUs increased by EUR 14 mln, an extra cost paid by the company (BSRH Financial Statements 2005).

6) The management provided services to counterparties in Serbia, Macedonia, and Greece that resulted in EUR 16 mln uncollectable account receivables (BSRH Financial Statements 2002-2009).

7.4. THE STAKEHOLDERS' GOALS AND THE REORGANISATION OF BSRG

At the end of 2009, BSRG was on the verge of bankruptcy. The overall debts of EUR 434 mln (while the net assets were EUR 380 mln) constituted 77% of the assets and the loss for the year was EUR 34 mln (BSRH, KPI 2002-2018). In that context, the process of the transformation of BSRG was framed by the conflicting demands of the most powerful agents of the internal and the external audience.

The Intentions of the Management

At the end of 2009 began the process of recruitment of the new management. The new (transformational) management was supposed to reorganise the company and save its status of a going concern. The team developed two detailed business plans: the first one for the period 2010-2014 and the second one for the period 2015-2022 (Plan for Restructuring and Financial Stabilisation of BSRG, 2010; Revitalisation and Development Plan of BSRG for 2015-2022 March 2015, Sofia).

The plan for the restructuring and financial stabilisation of BSRG initiated wide-ranging reorganisation to turn the company around.

The Intended effects of the reorganisation. The first reform was the restructuring of the Group by concentrating all commercial and operational activity in two companies utterly separate from each other: BSRF Transportation Ltd. and BSR Passengers Transportation Ltd. The second reform targeted the optimisation of all operational, manufacturing and commercial activities and processes in both companies and the holding "umbrella." The aim was to increase efficiency by significantly reducing expenses and maximising revenue. The third reform was to solve the problem of the company's over indebtedness. The fourth reform was the realisation of the investment programme for the development of BSRG. (Plan for the restructuring and financial stabilisation of BSR Inc., 2010).

The reorganisation of BSRG required many unpopular measures: (1) lay off of employees, (2) change of the organisational structure and process, (3) delay of repayment of the debts, (4) rescheduling payments to the suppliers, (5) negotiations

on the financial state aid with the government, the state institutions and the EU institutions, (6) cut off unprofitable trains and services (parcel services for example). Respectively, the reorganisations had many conflicting terrains and jeopardised the interests and the expectations of the major stakeholders of the company –government, trade unions, creditors, suppliers and clients (Plan for the restructuring and financial stabilisation of BSR Inc., 2010).

The Goals of the Employees

The employees suffered from the deteriorating working conditions and stagnating salaries (often not paid on time) in a massively overstaffed company with very low working morale. They wanted to keep their employment, have better working conditions and higher salaries. The management's intent to keep the company as a going concern was in full compliance with the goals of most of the working force to save their employment in the long-term. However, the reorganisation proposed by the management and aimed at reducing the number of employees and at changing the working process conflicted with the short-term goals of many of the employees, especially with those employees who were satisfied with having some salary and relaxed working hours as a bonus.

The Goals of the Trade Unions

The trade unions wanted to keep all the benefits received in the free of change and reorganisations period. These benefits include control over the recruitment process from the bottom to the top, participation in decision-making, representative offices, the membership fee of EUR 240,000 deducted from workers' salaries and transferred directly to the trade unions' accounts, as well as favourable collective labour agreements. However, the reorganisation proposed by the management and aimed to reduce the number of employees, and the influence of the trade unions conflicted with the goals of the trade union leaders.

The Goals of the EU – Commission

In 2007 Bulgaria became a member of the EU. As a member of the Union, the country was obligated to follow all European Treaties and Directives. In that sense, the EU-Commission became a new critical stakeholder of BSRG as it was the institution governing the allocation of state-aid-permissions for troubled companies. In other

words, the Bulgarian State needed permission from the European Commission to support the reforms by providing financing for partial repayment of the overdue debts. These were the debts that could meet the requirements for state-aid-permission and that BSRG was not able to repay by itself (EU Directives). To see the green light, the company needed to provide arguments for at least one of the possible types of state-aid-permissions complied with a detailed restructuring plan. The plan is supposed to confirm that the entity could be a going concern after the reorganisation. The goal of the European Commission clerks was to have the required information well supported so that they could reassure themselves that the decision they would take could not be compromised. The timing of the procedure was of little value. However, the transformational management of BSRG was in a hurry to obtain a state-aid-permission as soon as possible to shorten the timing of reorganisation.

The Goals of the Banks

Major international banks had loaned EUR 270 mln to the enterprise. The first repayment was due by the end of 2009. However, even the interest was under question (BSRG, Audited financial statements 2002-2010). What did the banks want? The goal of the banks was to receive regular payments both on the principal and on the interest. Alternatively, they wanted higher interest rates as compensation for the overdue loans. However, the financial poison of the company did not allow the management to meet the repayment schedules and the expectations of the banks (BSRG, Annual Financial Statements 2009). Therefore, the transformational management's goal was to save the company by restructuring and optimising it. Debt repayment was a high priority for the leadership, but it was not doable in short-term. The conflicting interests of the management and the banks were unsolvable in short and even in mid-term. The banks insisted for governmental intervention, but the government was reluctant and restricted by the EU directives.

The Goals of the Suppliers

The suppliers, who had earned millions of euros for decades, were feeling the pinch of cash shortage, as the BSRG's overdue accounts payable were EUR 150 mln (BSRG, Financial statements 2009). However, the management was not able to meet the payment obligations because of the financial status of the company. The conflict was extreme. The suppliers' goal was to obtain timely payment in accordance with the

terms fixed in the contracts with BSRG. However, the management was not able to meet these expectations in the short-term because of the weak financial position of the company. Nevertheless, the long-term goals of the management and the suppliers were similar as it was both sides' interest to have a smooth supply process and a going concern.

The Goals of the Government

The government experienced intense pressure as the company was on the verge of bankruptcy due to imbalanced national transportation scheme, powerful lobbying for road transport and lack of sufficient investments in railways. The authority was at the same time not very happy to face hostile actions like for example strikes launched by the trade unions and restrictions to company funds imposed by both banks and suppliers. Correspondingly, support for reforms initiated by the managers was contingent, heavily depending on the political situation.

The Conflicting Goals of Stakeholders

The goals of suppliers of BSRG, banks that credited the company, company's employees and trade unions, differed significantly from one another in the short run. All of these stakeholders wanted timely payments of due amounts: salaries, loans, payables. The company's financial position did not allow the management to comply with all these goals because of the cash shortage. Therefore, the demands of all these members of the external and the internal audience were in unsolvable short-term conflict.

The goals of employees, suppliers, banks, trade unions and government were not in direct conflict with the goals of the European Commission. However, all of these stakeholders depended to a certain extent on the decisions of the European Commission as it was clear that state-aid would be necessary to complete the entire reorganisation of the enterprise. The government did not want to spend extra cash. The European Commission was not interested in the current payments, but in the ability of the company to keep on being a going concern after the reorganisations.

Broadly speaking the suppliers had short-term conflicting goals with banks, employees, trade unions and management.

The conflicting claims in the limited surge space predetermined the timing of the change. The correlation between the institutionalised conflicting stakeholder's

demands and the outcomes of the slowed down transformation is a subject matter of the quantitative analysis in the following parts.

7.5. THE STAKEHOLDERS PROCESS AND ASPERITY

The BSRG and the Trade Unions

The inertial vs. transformational scenario. *The inertial scenario* of the relations between the management and the trade unions as discussed in Chapter 5 presents the traditional setup that has been historically institutionalised by the collective labour agreement. This arrangement was declared to be unchangeable and the institutional constraints, the institutionalised aspects of the labour agreement, prevented the particular changes in the reorganisation period*. The transformational scenario*, on the other hand, presents management's attempts to reduce the trade unions' power and to eliminate the negative impact of the collective labour agreements on the financial performance of BSRG. The maximum effect that could have been achieved was to eliminate the collective labour agreements for the period of reorganisation and regulate the labour arrangements through the Labour Code adopted in Bulgaria. The midway was to amend the collective labour agreements and produce a more reorganisation-friendly setup. Both sub-scenarios were available at the beginning of the reorganisation. However, because the power of the trade unions and the inertial political environment, only the second one took place just for a short period in the years 2012 and 2013.

The conflicts in the process. The strike in the autumn of 2011 was the ultimate demonstration of the cultural opposition against the reorganisation of BSRG. It lasted 24 days from 24 November to 17 December 2011 (https://fakti.bg.; https://www.investor.bg.). At that time, many passenger trains did not operate. What was the reason for such an outburst of asperity? BSRG's management was willing to speed up the reorganisation and initiated some unpopular reforms (https://www.capital.bg.). The most controversial elements were:

1. The dismissal of 2000 employees. The motive for such a dramatic discharge was the low labour productivity as the company was massively overstaffed.
2. The privatisation of the freight subsidiary.

3. The implementation of a pro-business collective labour agreement. The goal was to reduce various restrictions blocking the reforms. Examples of such constraints were: (1) the management's obligation to obtain trade unions' approval, ahead of any amendment of the organisational architecture and (2) ahead of any reduction of the number of employees regardless of the business cycle.
4. The cancelation of the most loss-generating 120 passenger trains. The goal was to alter the schedule, exclusive of the complete closure of any of the passenger routes.
5. The real bone of content was that the management refused to collect the membership fees from the members of the trade unions.

The only possible strategy for the management in facing the requirements of the trade unions, at that time, was ***defiance.*** Keeping the enterprise running was possible only by reducing operating cost, increasing available cash and eliminating all the limitations that could block the reorganisation of the enterprise. The transformational leadership was aware of all the negative consequences of that strategy.

The strike did not succeed: 2000 employees left the company, BSRF and BSRP adopted new pro-business collective labour agreements allowing for the reduction of excess employees in connection with the increase or decrease of the business activities; the management of BSRP stopped 120 loss-generating trains from operations.

However, in 2013 the inertial management substituted the transformational management because another government took power after the general elections. The inertial management signed a collective labour agreement that restored all the limitations existent before the adoption of the pro-business collective labour agreements adopted by the transformational leadership.

By the end of 2014, the transformational management returned to the company (the previous government returned to power) and adopted *manipulation strategy* in the relations with the trade unions. The strategy was a combination of active lobbying to convince the leaders of the trade unions in the feasibility of the reorganisation-oriented plans, controlling them through the allocation of resources and people and the inclusion of trade unions' representatives into some parts of the decision-making. At

that time that was the only possible strategy to strike a balance between the reorganisation needs and the complicated political situation that did not allow confrontation with the trade unions. The strategy, however, brought some positive results: some **people were set** free in BSRG and thus reduced the overcapacity without any additional tension. Here some "aha" moment could be observed as the trade unions and the management generated a new understanding of the situation in BSRG allowing them to find a partial solution to the existing problem of overcapacity and alleviate the issue without confrontation.

Quantitative analysis of the conflict. The overall financial burden, imposed on the BSRG by the trade unions dominated CLA, (as described in Chapter 4) was up to EUR 87 mln. As a result of the imposed factual and financial restrictions on the managers' plans to reorganise the company, the conflicting demands of the trade unions prolonged the timing of the transformation and increased the cost of change.

Table 63 below shows the KPIs in the audited financial statements of the company for the period 2010-2017. The overall loss for the period is EUR 134 mln. The debt at the end of 2017 is EUR 206 mln.

Table 63. BSRG inertial scenario KPIs 2010 - 2017

(million euro)

in thousands of euro	2010	2011	2012	2013	2014	2015	2016	2017
Revenue	214	224	205	197	193	189	173	177
Costs	188	203	171	159	169	162	168	171
EBITDA	26	21	34	38	24	27	5	6
EBIT	-14	-18	-15	-12	-23	-14	-18	-11
Net Profit	-24	-26	-16	-5	-25	-17	-12	-9
Equity	90	49	30	24	-6	11	41	32
Assets	529	477	444	394	332	325	335	304
Debts	422	398	376	325	287	258	232	206

Sources: Audited financial reports 2010-2017.

Table 64 below, shows that in the transformational scenario (when financial reports adjust to eliminate the conflicts with the trade unions), the financial position improves significantly: (1) the loss decreases from EUR 134 mln to EUR 70 mln; (2) the debts decrease from EUR 206 mln to EUR 186 mln; and (3) EBITDA increases from EUR 182 mln to EUR 262 mln for the entire period.

Table 64. BSRG transformational scenario KPIs 2010-2017

(million euro)

in thousands of euro	2010	2011	2012	2013	2014	2015	2016	2017
Revenue	213	224	205	197	193	186	169	177
Costs	178	194	157	146	155	150	160	163
EBITDA	35	30	48	52	38	36	9	14
EBIT	-5	-9	-2	1	-8	-5	-14	-3
Net Profit	-15	-16	-3	8	-11	-9	-8	-1
Equity	99	67	62	69	53	79	113	112
Assets	529	477	444	394	332	325	335	304
Debts	413	380	345	280	228	190	160	126

Sources: Adjusted audited financial reports 2010-2017.

Table 65 below shows the effect of the trade unions' resistance on the fitness of BSRG expressed by Z-Score.

Table 65. BSRG Z-Score 2010 - 2017

BSRG	2010	2011	2012	2013	2014	2015	2016	2017
Real Z-Score	0,32	0,22	0,25	0,56	0,09	0,26	0,26	0,40
CLAs Z-Score	0,38	0,34	0,39	0,51	0,41	0,57	0,51	0,79

Sources: Adjusted audited financial reports 2010-2017.

In the absence of CLAs, the Z-Score of BSRG would have been better for the entire period of transformation from 2010 to 2017, except in 2013. In 2017, the real Z-Score is 0.40 compared to 0.79 Z-Score in the hypothetical absence of CLAs. In other words, in the absence of CLAs, the Z-Score would have been 98% higher for the BSRG, as a whole. Otherwise speaking, the absence of CLAs allows for a faster improvement in company's fitness and its faster reorganisation. Consequently, the adaptive capability declines because of the asperity of the trade unions.

The BSRG and the European Commission

In 2010, the management of BSRG designed the "Plan for the Restructuring and Financial Stabilisation of BSRG for 2010 and a plan for the activities for the 2010-2014 period". It was evident that the company needed state-aid in order to restore its going concern status. However, the state-aid required a permit by the European Commission.

The inertial vs. transformational scenario. The inertial scenario of the relations between the management and the European Commission presents the picture when the clerks of the Commission follow their agenda to have the required information well

supported so that they could reassure themselves that the decision they would take could not be compromised. As discussed earlier, the timing of the procedure was of little value. Exactly, this approach inflicted inertial acting as the clerks did not care about the urgency of the situation. However, BSRG's transformational management had the restructuring plan, and the appropriate state-aid-permission was a crucial part of it. The transformational scenario was to obtain a state-aid-permission as soon as possible in order to reduce the cost and shorten the timing of the reorganisation. Both scenarios were available at the beginning of the reorganisation. However, because of the bureaucratic nature of the EC structures, the inertial approach of the clerks delayed the state-aid-permit until 2017.

The conflict in the process. On 17 September 2010, the Bulgarian government informs the European Commission on the need of temporary measure – rescue aid of EUR 127 mln. The rescue-aid is allowed by the European Commission, but the government never put it into practice.

On 18 May 2011, the Bulgarian government informs EC about the need for restructuring aid for BSRG. On 9 November 2011, EC informs the government of Bulgaria that decision is taken to open up a procedure for investigation of the case and additional information is required. On 11 January 2012, the government presents an updated plan accompanied by the answers to all the questions.

Permission is not given in the following 18 months. On 20 June 2013, the government of Bulgaria cancels the privatisation of BSRF. One of the requirements for the restructuring aid is that the company proofs its contribution of 50% to the whole restructuring of the company. The cancelation of the BSRF privatisation procedure makes it impossible for BSRG to meet this requirement.

On 8 September 2014, the EC Directorate-General (DG) for Competition informs the Bulgarian government that debt cancellation state-aid might be permissible in the case of BSRG. EC stated many requirements as a prerequisite to giving state-aid-permission to BSRG. The only possible strategy that the management could employ was **acquiescence** or the adoption of arrangements required by the European Commission. The strategy resulted from *taken-for-granted* norms, and regulations applied by the European Commission and voluntary *compliance* with institutional requirements.

After many meetings and technical discussions of the government and management with Directorate's representatives, the state aid permission is issued on 16 June 2017 (Commission Decision on the State Aid SA.31250-2011/C (ex 2011/N). However, the whole process lagged for almost three years and reduced the speed of the transformation process by postponing required payments on the overdue amounts of debt.

Quantitative analysis of the conflict. As a result of the delay, BSRG paid interest penalties. Had the whole process of the notification lasted a year (a period that could be considered a normal one for a company in a financial distress), the total financial burden would have been EUR 14 mln less, as the company would have not paid interest penalties for the rest of the period because of the earlier notification and repayment of the debts in 2016. The capital structure would have improved by EUR 61 mln additionally to the increase of equity that took place in 2018. The effect of the total increase of equity of EUR 162 mln would have come two years earlier.

Table 66 below shows the effect of the delayed notification on the fitness of BSRG as expressed by Z-Score.

Table 66. BSRG delayed notification Z-Score 2010 - 2017

BSRG	2010	2011	2012	2013	2014	2015	2016	2017	2018
Real Z-Score	0,32	0,22	0,25	0,56	0,09	0,26	0,26	0,4	1,21
Z-Score Notification ontime	0,32	0,22	0,25	0,56	0,09	0,26	1,22	1,47	1,55

Source: (Adjusted Audited financial statements of BSRG 2010-2018)

If the notification from the European Commission had come on time, the Z-Score of BSRG would have been better for the entire period from 2016 to 2018. In 2018 the real Z-Score is 1.21 compared to 1.55 Z-Score in the absence of the delay of the notification. In the absence of the delay, the Z-score in 2018 would have been 28% higher than the original score of BSRG. In other words, if the notification had come on time that would have allowed for faster reorganisation and faster improvement of company's fitness. Consequently, BSRG's adaptive capability declined because of the delay of the European Commission to provide state-aid-permission on time.

The BSRG and the creditors 2009 - 2018.

The indebtedness of BSRG increased from EUR 101 mln in 2002 to EUR 434 mln in 2009 or by 492%. The significant portion of BSRG debts represents borrowed funds

(loans) provided by financial institutions. The loans funded the supply of new tractive and rolling stock, recycling, and modernisation of the existing railroad fleet and for refinancing of arrears to NEK EAD, NRIC, and Ipex Bank. In 2009, BSRG liabilities rocket to EUR 435 mln (BSRH, KPI 2002-2018).

The reasons thereof are related to the lack of reforms and to the global financial and economic crisis which at that time affected Bulgaria. Within a few years, the company lost more than a half of its freight and about 15% of its passengers (BSRG, KPI 2002 - 2018). The Table 67 below shows the data for the period 2002-2009.

Table 67. BSRF transported tones 2002 - 2009

in thousends	2002	2003	2004	2005	2006	2007	2008	2009
Transported tones	18 500	20 070	20 387	20 298	21 183	20 175	17 590	10 633
Net tonne- kilometers	4 628	5 274	5 212	5 163	5 225	4 711	4 031	2 266

Source: (Audited financial statements of BSRF 2002-2009)

Inertial vs. transformational scenario. *The inertial scenario* of the relations between the management and the creditors presented the picture when the clerks of the banks followed their agenda to either collect the overdue amounts as soon as possible or to benefit financially from the situation. The reorganisation-oriented plans of the management of BSRG were of little value. Exactly, this approach inflicted inertial acting as the clerks did not care about the feasibility of the plans. However, BSRG's transformational management had the restructuring plan where the debt repayments mechanisms were set out. *The transformational scenario* was to restructure the debts and repay them with the cash proceeds generated from the implementation of the measures as laid down in the reorganisation plans. The idea was to repay as soon as possible in order to reduce the cost and shorten the timing of the reorganisation. Both scenarios were available at the beginning of the reorganisation. However, because of banks' disagreement the inertial scenario dominated the reorganisation period. The cost of reorganisation increased and the timing of the reorganisation was significantly prolonged.

The conflict in the process. BSRG management was forced to reduce the payments to the lending banks and NRIC in order to preserve the company and to start the long-delayed railway reforms.

The first overdue payments were reported in November and December 2009 under the First Debenture Loan and payable to KFW and amounted approximately to a total of

EUR 10.9 mln. In 2010, due to the severe deficit, the overdue liabilities of BSRG to KFW, First Debenture Loan and Second Debenture Loan increased to approximately EUR 27 mln. The company's free cash was insufficient to repay the debts as scheduled (Audited financial statements of BSRG 2010). The management had no choice but to repay the arrears to significant trade suppliers related to supply of materials and spare parts, fuel, lubricants, rolling stock repairs, and supply of traction power supply in order to ensure the smooth operation of the system.

The only possible strategy of the management in facing creditors' requirements at that time was ***defiance.*** Keeping the enterprise running was possible only by paying the suppliers first and ignoring the expectations of the banks for, later on, suffering all the negative consequences of that strategy. Fig 52 below illustrates precisely the defiance strategy employed by the management of BSRG.

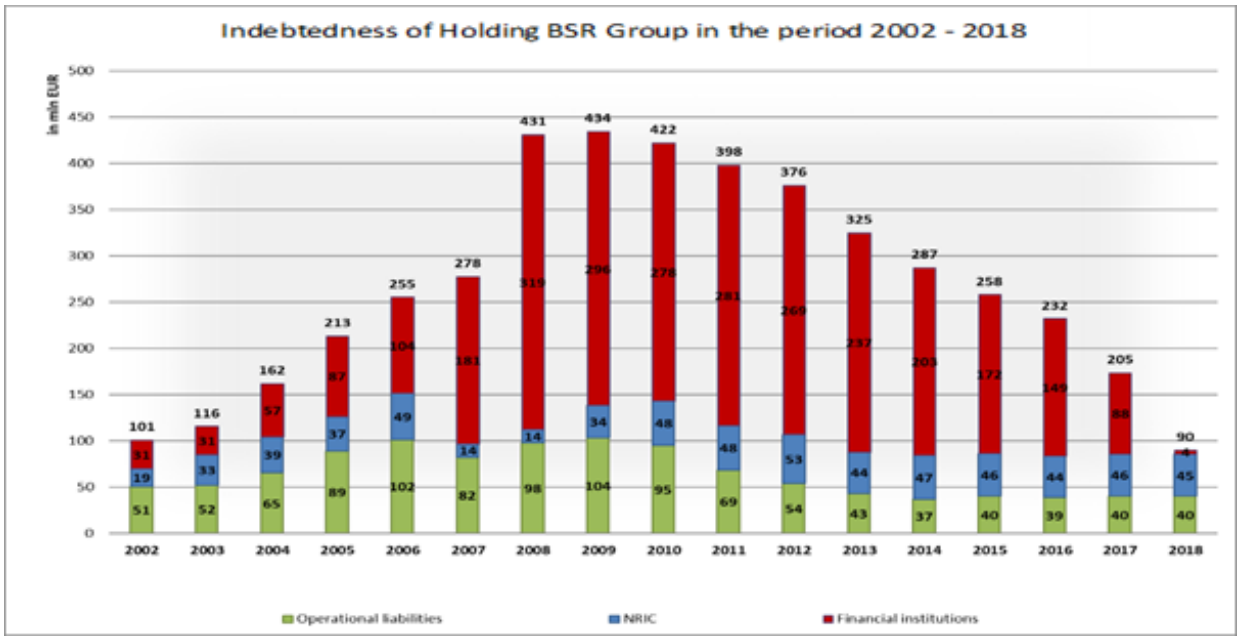


Fig 52. Total indebtedness, including financial institutions for the period 2002 - 2018
Source: Audited financial statements of BSRG 2002 - 2018

The graph shows that between 2010 and 2012 BSRG repaid EUR 39 mln debt to the suppliers that amounts to 43% of the total amounts overdue to them. For the same period, BSRG repaid EUR 9 mln to the banks that represent 3% of the amounts overdue (BSRG, Audited financial statements 2002 - 2018). The total overdue amounts are presented in table 68 below.

Table 68. Indebtedness of BSRG 2010 - 2018

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018
Overdue amounts in million	27	59,5	81,7	78,4	116	105,4	79,6	79,7	0

Source: Audited financial statements BSRG 2010 – 2018

In the period 2010 - 2012, meetings were held, and correspondence with the lending banks was exchanged in order to restructure the arrears due by BSRG partially. The management of BSRG tried to convince the lending banks in the fusibility of the plan adopted in 2010 and demonstrated that the rescheduling of the debts could be beneficial to both sides. The creditors did not accept the proposals.

On the contrary, they placed unacceptable and impossible to meet requirements for the leadership of BSRG. At the end of 2012, the bondholders under the Second Debenture Loan initiated three legal proceedings at the High Court of Justice in London against BSR for arrears amounting to approximately EUR 32 mln (principal and interest). By decisions of 1 March 2013, the court adjudicated that BSRG was to pay the arrears and awarded a default interest of 8% in favour of the lending banks. In 2012, Depfa Bank brought proceedings against BSRG at Sofia City Court for arrears under the First Debenture Loan amounting to approximately EUR 3 mln. In 2013, some meetings and discussions were held with representatives of the bank, and as a result, an agreement to reschedule the debts of BSRG, including cancellation of 75% of the interest due, was reached.

In the period 2013 and 2015, with the advancement of the reforms the Ministry of Transport, Information Technology and Communications (MTITC) and BSRH made numerous proposals and organised meetings for the restructuring of the debts to KFW and the Second Debenture Loan. In the meantime, the defiance strategy gives way to a strategy of compromise when the enterprise partially satisfies all demands by *balancing* competing expectations while actively *bargaining* alterations of the demands. Between 2010 and 2013, BSRG repaid EUR 50 mln and by 2015, the total amount of repaid debts to the lending banks amounted to EUR 106 mln or 38% of the total debt. However, the creditors did not accept the proposals, and instead, they again set requirements that were impossible to be fulfilled by either the government or the BSRG, concerning specifically the initial payment of the entire overdue portion of the debts and provision of a state guarantee. Only EUROFIMA made an exception

agreeing that the debt of EUR 5.1 mln maturing in March 2015 should be deferred until September of the same year.

While the lending bank institutions not only did not accept any rescheduling proposals they also undertook an aggressive strategy against BSRG. In the period February 2013 through October 2015, KFW initiated nine enforcement proceedings against the subsidiary BSRP and withdrew from its accounts an amount worth approximately EUR 12.1 mln. In January 2014, the bondholders under the Second Debenture Loan blocked BSRH accounts and in March of that year took the first coercive actions aimed at the part of the non-operating real estate of BSRH. In November 2014, the bondholders decided to request for acceleration of the Second Debenture Loan and to proceed with the sale of part of the established special pledge, namely 3,542 cargo carriages owned by BSRH. It should be noted that the bondholders limited their coercive measures only to assets that were not related to the operating activities of BSRG, which was due, among other things, to the established and maintained good relations with them on the part of the transformational management. That was the only partial outcome of the strategy of compromise.

In early 2015, the bondholders initiated three new legal proceedings at the High Court of Justice in London against BSRH for new arrears amounting to approximately EUR 66.7 mln. By decisions of July 2015, the court condemned BSRH to pay the arrears and awarded a default interest of 8% in favour of the lending banks. In 2015, the Minister of Transport proposed the bondholders under the Second Debenture Loan, the amounts due to be paid out of the expected receipts from the concession initiated at that time at Sofia Airport and upon receipt of the EC approval for state-aid for BSRG.

In June 2016, after several years of continuous efforts by BSRH, an agreement with KFW on restructuring and rescheduling of BSRG debts to the bank by the end of February 2018 was reached. The Bank withdrew its initial requests for repayment of all currently outstanding debts of BSRG and form some form of state guarantee. No additional collateral was provided to the bank. BSRG fulfilled the agreement with KFW promptly, and the funding did not exceed the state funding of the company provided at that time.

However, in 2016, the bondholders brought at Sofia City Court a partial claim for EUR 511,000 against the subsidiary BSRP in virtue of its joint responsibility for the debts of

BSRH resulting from the reorganisation made in 2011. In March 2017, an agreement was reached with EUROFIMA to extend by three months the term of a portion of BSRH debts maturing in April and amounting to EUR 20 mln with an option of signing a refinancing agreement for the amount of EUR 9.8 mln by the end of March 2018. BSRH managed to fully repay its debts to EUROFIMA by June 2017 (Audited financial statements of BSRG 2017).

In the period September–October 2017, after (the EC's notification of state aid came on 16 June 2017) intense negotiations with the bondholders were held to agree on a comprehensive agreement for payment of BSRH arrears. General agreement on the parameters of the agreement in question, including on the payment of four instalments of the debt was reached, with a discount of EUR 3 mln being negotiated. The agreement was not signed because the Ministry of Finance did not commit to providing the required amounts from the state budget.

Quantitative analysis of the conflict. In the period 2009-2018, the debts repaid by BSRH amounted to approximately EUR 323.1 mln (Audited financial statements of BSRG 2009-2018), and no additional funds were provided for this purpose in addition to standard state funding of the company. The debt repayment was made possible thanks to the free internal financial resources as a result of the successful reforms implemented by the company management to improve the financial stability, structure, and processes, and to reduce the spare capacity. To this end, the BSRG paid the price representing the amount of accrued compensation for late payments (default interest) for the debts during the period 2010 – 31 May 2018 amounting to approximately EUR 43.4 mln (Audited financial statements of BSRG 2018).

If the lending banks had accepted the management’s reorganisation plan (transformational scenario) and agreed to renegotiate and restructure the debts the financial performance the company could have improved by saving the penalty costs. At the time of the potential negotiations and afterwards, for the entire period under consideration from 2013 to 2018, the market interest rates were below the interest cost of the 3.5 % + 6m EURIBOR of the Second Debenture Loan and 0.5 % + 6 m EURIBOR of the KFW BANKENGRUPPE 15% EMB Loan. So, it could be hypothesised that it would have been beneficial for the banks to reschedule the loans at the same interest rate conditions. In this case, as Table 69 below shows, the company would have saved EUR 18 mln worth of penalties.

Table 69. Reported interest expense on arrears for the period 2010 - 2018

millions	2013	2014	2015	2016	2017	2018	Total
Penalties interest cost	2	1	3	5	5	2	18

Source: (Audited financial statements of BSRG 2013-2018)

Table 70 below shows the effect of the penalties imposed by the lending banks on the Z – Score of BSRG

Table 70. Z – Score without penalties vs. real Z-Score 2010 - 2018

BSRG	2010	2011	2012	2013	2014	2015	2016	2017	2018
Real Z-Score	0,32	0,22	0,25	0,56	0,09	0,26	0,26	0,4	1,21
Z-Score Notification without penalties	0,32	0,22	0,25	0,46	0,1	0,29	0,3	0,42	1,57

Source: (Audited financial statements of BSRG 2010-2018)

Had the loans been rescheduled according to the transformational scenario the Z-Score of BSRG would have been better for the entire period from 2016 to 2018. In 2018 the real Z-Score is 1.21 compared to 1.57 Z-Score in the possible rescheduling of the loans. The Z-score in 2018 would have been 30% higher than the original score of BSRG. In other words, if the loans had been rescheduled in 2013 that would have allowed for faster reorganisation and faster improvement of company's fitness. Respectively, the adaptive capability declines because the landing banks did not accept the transformational scenario and deny rescheduling the outstanding loans.

The BSRG and the Government 2009 - 2018

The inertial vs. transformational scenario. *The inertial scenario* of the relations between the management and the government presented the picture when the state bodies and clerks followed their agenda to support the reorganisation of BSRG only when it was politically beneficial and unavoidable. BSRG management's reorganisation plans were essential for the government to the extent they did not generate unacceptable political tension or allocation of resources. This approach inflicted inertial acting because neither politicians nor clerks cared about the consistency of the reorganisation plans. However, the reorganisation-oriented measures in the restructuring plans are interconnected, and success is heavily dependent on the sum of actions. The transformational scenario relied on the reliability of the governmental support promptly. Both scenarios were available at the beginning of the reorganisation. However, because of the inconsistency in the institutional

support, the inertial scenario dominated the reorganisation period. The cost of reorganisation increased and the reorganisation timing was significantly prolonged.

The conflict in the process. The government is the primary source of funding for BSRP. Every year the government provides state subsidy to cover the costs that the company cannot cover from its market incomes. Additionally, the government covers 50% of the costs for students and pensioners. Finally, the government is the only source of funding for purchasing of new rolling stock (Contract for provision of public transport services, 2010) as the Ministry of transport controls the state-owned enterprise BSRG and its subsidiaries, and all funding depends on the Ministry of Finance and the National Assembly. Therefore, the only possible strategy of the management dealing with the government and the other state institutions was **acquiescence**.

As already discussed, earlier in 2010 the management of BSRG designed the “Plan for the Restructuring and Financial Stabilisation of BSR for 2010 and a plan for the activities for the 2010-2014 period”. Financial forecast prescribed that the government should provide funds to keep the company as a going concern. However, the needed state-aid was only possible subject to permission from the European Commission. The rescue aid of EUR 127 mln was allowed by the European Commission (Notification 402/2010 of 16 December 2010), but the government never provided the funds to the company.

On 18 May 2011, the Bulgarian government informs the European Commission about the need for restructuring aid for BSRG. On 9 November 2011, the European Commission informs the government of Bulgaria that decision is taken to open up an investigation procedure on the case and additional information is required. On 11 January 2012, the government presents an updated plan accompanied by the answers to all the questions.

Permission is not given in the following eighteen months. On 20 June 2013, the government of Bulgaria cancels the privatisation of BSRF. However, one of the essential requirements for obtaining restructuring-aid permission is that the company provides proves that its contribution is at least 50% of the whole restructuring cost of the company. The cancelation of the BSRF privatisation procedure made it impossible for the BSRG to meet this requirement. Had the privatisation taken place the company

would have received a minimum of EUR 60 mln that would have allowed the management to repay EUR 60 mln worth of debts in the same year. In this case, the financial position of the company would have been significantly better.

On 16 June 2017 BSRH receives a state-aid permit under subsequent EU Notification No S.A.31250 for cancellation of previous debts existing as of 31 December 2006 and loans refinanced with borrowed funds after 1 January 2007. However, the provision of part of the funds is delayed until 30 June 2018. Due to the late provision of the funds, BSRG suffers additional losses as a result of accrued financial and default interest accrued on debts subject to cancellation for the period 1 July 2017 – 30 June 2018 for EUR 4 mln (Audited financial statements of BSRG 2018).

According to the contract concluded with the state for the provision of public transport services, the Government had to finance the purchase of new rolling stock by the end of 2013, providing capital transfers amounting to EUR 575 mln. The government did not provide the necessary investment for the renovation of the rolling stock meant to guarantee the competitive position of the passengers' transportation part of BSRG's business (PSO contract for passengers' transportation services). Over the period 2009—2017, funds worth EUR 109 mln are provided, and the actual under-financing from the Government under the contractual engagements amounts to EUR 506 mln (Audited financial statements of BSRG 2009 - 2017).

Quantitative Analysis of the Combined Conflicting Stakeholders Demands

The story of the reorganisation of BSRG and its subsidiaries up to now demonstrates that the conflict demands of the internal and the external audiences limit the speed of the reorganisation and worsen the fitness of the company. The demands of each of the stakeholders reduce the adaptive capabilities of the enterprise and increase the mortality hazard. The exciting part is the combined effect of the conflict demands on the timing of the reorganisation and the performance of the company.

The effects of the different stakeholders are as follows:

1. Trade unions: the total cost of CLAs and delayed the release of staff in EUR 87 mln.
2. Lending banks: total penalty costs worth EUR 18 mln.

3. European Commission: the total cost of delayed state-aid-permit EUR 14 mln and a total of EUR 61 mln equity less.
4. Government: delayed allocation of funds in compliance with the state-aid permit EUR 4 mln.
5. European Commission, and the Government: total delayed EUR 101 mln increase in equity in 2016 (increased in 2018).

Table 71 below shows that had the above adverse effects not taken place the fitness of the company would have been significantly better.

Table 71. BSRG KPI Transformational Scenario 2010 - 2018

Financial indicators (mln EUR)	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total revenues	216	225	214	217	205	202	189	193	198
Lost income									
Total expenses	230	242	216	207	215	207	190	189	198
Cost of delayed	9	9	14	16	15	12	11	13	2
EBITDA	35	30	48	54	39	39	16	19	10
EBIT	(5)	(9)	(1)	4	(8)	(2)	(7)	3	(2)
Net profit	(15)	(17)	(2)	11	(10)	(5)	(1)	5	-
Equity capital	99	67	62	72	57	86	276	280	285
Current assets	113	101	111	101	84	80	100	158	205
Total assets	529	477	444	394	332	325	382	412	450
Current liabilities	181	199	195	153	169	133	21	21	21
Total liabilities	413	380	344	277	224	183	38	38	38

Source: (Adjusted audited financial statements of BSRG 2010-2018)

The overall improvement of BSRG financial performance in the transformational scenario is:

1. The outstanding debts would have been repaid in 2016, the indebtedness would have gone down to the normal levels of EUR 38 mln, and the debt crisis would have ended up.
2. Improvement of the capital structure due to the increase of equity by EUR 148 mln as a result of the improved financial results EUR 101 mln, and an increase of EUR 47 mln of equity by the government.
3. Increase of assets by EUR 161 mln as a result of the savings of costs

Table 72 below shows what would be the effect on the Z-Score of BSRG if there had been no conflicting stakeholders' demands (transformational scenario).

Table 72. Z – Score no conflict stakeholders demands vs. real Z-Score 2010 - 2018

BSRG	2010	2011	2012	2013	2014	2015	2016	2017	2018
Real Z-Score	0,32	0,22	0,25	0,56	0,09	0,26	0,26	0,4	1,21
Z-Score no demands	0,39	0,33	0,46	0,73	0,47	0,7	3,68	3,84	3,87

Source: (Audited financial statements of BSRG 2010 - 2018)

If the transformational scenario had taken place (had conflicting demands of the critical stakeholders of BSRG not existed), the Z-Score of BSRG would have been significantly better for the entire period from 2010 to 2018. In 2018 the real Z-Score is 1.21 compared to 3.87 Z-Score in the absence of conflicting demands of the stakeholders. The Z-score in 2018 would have been 3.2 times higher than the original score of the group of companies. If the principal representatives of the internal and the external audiences had approved the transformational management's reorganisation plans and had supported the implementation of the changes the transformation of the company would have been completed in 2016. In 2016 the Z-Score of the company would have been 3.68 or far above the 1.23 hurdle indicating a high likelihood of bankruptcy (if below) and well above 2.9 indicators for financially sound (if higher) enterprises. In 2017 and 2018 the Z-Score of BSRG would have been even higher with 3.48 and 3.87, respectively. All in all, the reorganisation of BSRG would have lasted six years from 2010 to 2016 and would have been completed in 2016.

CONCLUSION

1. The analysis of the role of the critical stakeholders for the crisis of BSRG shows undoubtedly that the government and the trade unions were the driving force. The excess cost of the labour for the period 2002-2009 amounts to EUR 171 mln. The government underfinanced the company by EUR 150 mln and did not provide EUR 186 mln for the purchase of the new rolling stock. If the government had appropriately financed the public transport services provided by BSRP and invested in new rolling stock, BSRG would not have been on the verge of bankruptcy. On the contrary, the enterprise would have been financially sound.

1. The key members of the internal and the external audience of BSRG – the trade unions, the government, the landing bank institutions, and the European Commission – did not accept the agenda of the transformational management included in the management's reorganisation plans and actions since the outset of the reorganisation. They had conflict demands, and the support for the

management's intentions varied significantly. The trade unions organised the most vigorous opposition to the reorganisation in the first two years. Later on, some "aha" effects alleviated the problem to a certain extent, but the effects are close to marginal. The lending banks ignored the management's proposals and followed their strategy of collecting overdue debts. The European Commission did not oppose the intentions of the management but was not cooperative in meeting the essential deadlines of the management. The government was supportive in some of the aspects of the reorganisation, but not very consistent in understanding and backing up the plans of the transformational management. More or less each of the stakeholders followed its agenda in the process of the change of BSRG.

2. The individual strategies of the transformational management in coping with the conflicting demands of the critical stakeholders had mixed effects. The strategy of defiance applied to the trade union demands in the first years of the transformation was very successful as it accelerated the changes. The strategy of manipulation employed later on had marginal effects coming mainly from the "Aha" effects. The strategy of **defiance** used against the lending banks did not bring any positive effects with them, but it allowed the company to survive in the short term. The strategy of **acquiescence** applied to the EU-Commission and the government had many short-term problems. However, it was successful at the end as the European Commission gave the state-aid-permit and the government provided the necessary funds.

3. The conflicting demands of the critical members of the external and the internal audience had devastating effects on the fitness of the company. The total direct cost incurred by the BSRG because of the conflicting demands amounts to EUR 123 mln. The total indirectly postponed improvement amounts to EUR 163 mln. Moreover, the conflicting stakeholders demand reduced the speed of the transformation. The transformation lasted two years more before the company was able to approach the exit of the status "high likelihood of bankruptcy." The status of financially sound enterprise has not yet been achieved by the end of 2018.

The above data confirm the hypothesis that the adaptive capacity and the speed of reorganisation of the troubled BSRG declines with the intensity of the conflicting institutional demands presented by the principal representatives of the internal and the external audience.

Chapter Eight

Combined Effects of Opacity, Resistance and Stakeholders' Conflicting Demands

Chapter 8 discusses the combined effects of opacity, resistance and conflicting stakeholders' demands on the adaptive capability of BSRG. They deteriorate the fitness of BSRF, BSRP and BSRG and slowdown the speed of reorganisation of the companies. Z-scores present the aggregate data about the fitness and the speed of transformation of BSRG.

8.1. BSRF

Collective Labour Agreements. Table 73 below shows that in the inertial scenario the overall loss of BSRF for the period 2010-2017 is EUR 43 mln and the indebtedness at the end of the period is EUR 54 mln.

Table 73. Inertial Scenario - CLA financial burden in BSRF 2010-2017

(million euro)

	2010	2011	2012	2013	2014	2015	2016	2017
Revenue	79	95	77	71	68	63	53	56
Expenses	85	100	80	64	69	57	51	55
EBITDA	-7	-4	-3	6	-1	6	2	1
EBIT	-7	-11	-13	-5	-12	-4	0	-3
Net profit	-7	-11	-8	2	-11	-4	0	-3
Equity	-5	49	42	40	27	20	56	51
Assets	46	110	110	99	86	71	107	105
Debts	52	61	67	59	58	52	51	54

Sources: Audited financial reports BSRF 2010-2017

The effect of the CLA on the financial performance of BSRF is significant (see Chapter 5). However, Table 74 below shows that if disregarding the effect of the CLAs for the period 2010-2017 (transformational scenario), the financial result of the company would have increased by EUR 41 mln for the period and would have decreased to a loss of EUR 1 mln. The financial result of the company for the last three years (from 2015 to 2017) would have been positive, and the indebtedness would have decreased from EUR 54 mln to EUR 13 mln (see Chapter 5).

Table 74. Transformational scenario - no CLA financial burden in the BSRF 2010 - 2017

(million euro)

	2010	2011	2012	2013	2014	2015	2016	2017
Revenue	79	95	77	71	68	63	53	56
Expenses	80	95	75	59	61	51	47	51
EBITDA	-1	0	2	12	7	12	6	5
EBIT	-2	-7	-9	1	-5	2	3	2
Net profit	-2	-7	-4	8	-3	2	4	1
Equity	0	59	56	60	54	53	93	93
Assets	46	110	110	99	86	71	107	105
Debts	47	51	53	39	31	19	14	13

Sources: Adjusted audited financial reports 2010-2017.

Total Cost of Opacity and Resistance. Table 75 below shows that the total effect of delay in measures' discovery, delayed implementation or non-implementation in BSRF during the period 2010-2017 is also significant (see Chapter 6). If these measures had been discovered and implemented on time the company income would have been EUR 18 mln (including 15 mln sales of assets) higher, and the total costs would have been by EUR 81 mln less (including EUR 40 mln worth of depreciation). If disregarding the effects of the resistance and opacity for the period 2010-2017, the financial result of the company would have increased by EUR 99 mln for the period and would have increased to a profit of EUR 6 mln as shown in table 75 below. Company's financial result for the last three years (from 2015 to 2017) would have been positive, and the indebtedness would have decreased from EUR 54 mln to EUR 16 mln (see Chapter 6).

Table 75. The total cost of opacity and resistance in the BSRF 2010 - 2017

Financial indicators (mln EUR)	2 010	2 011	2012	2013	2014	2015	2016	2017
Revenue	79	95	77	78	69	68	64	57
Expenses	84	107	86	71	75	60	47	54
EBITDA	(5)	(4)	3	11	4	15	11	6
EBIT	(5)	(11)	(8)	(1)	(7)	4	8	3
Net profit	(5)	(11)	(8)	7	(6)	8	17	4
Equity	(3)	51	49	52	43	48	101	105
Assets	46	110	110	99	86	70	116	119
Debts	50	59	61	48	42	24	16	16

Sources: Adjusted audited financial reports 2010-2017 BSRF.

Total effects. Table 76 below shows that if disregarding the effects of the CLAs, resistance, and opacity for the period 2010-2017, the financial result of the company would have increased by EUR 113 mln from EUR 42 mln loss in the inertial scenario

(Table 73) to EUR 71 mln worth of profit. Company's financial result for the whole period except in 2010 would have been positive; the indebtedness would have decreased from EUR 54 mln in the inertial scenario (Table 73) to EUR 16 mln, and the equity would have increased from EUR 51 mln in the inertial scenario (Table 73) to EUR 171 mln.

Table 76. Total effects of CLAs, opacity, and resistance in the BSRF 2010 - 2017

Financial indicators (mln EUR)	2 010	2 011	2012	2013	2014	2015	2016	2017
Total revenues	79	97	77	78	69	68	64	57
Total expenses	80	98	72	59	62	51	43	52
EBITDA	(1)	2	8	13	8	16	13	7
EBIT	(2)	1	6	12	5	13	10	4
Net profit	(2)	0	6	19	7	16	20	5
Equity capital	0	66	78	93	97	111	167	171
Total assets	46	110	110	109	114	126	183	187
Total liabilities	47	44	31	16	16	16	16	16

Sources: Adjusted audited financial reports 2010-2017 BSRF.

8.2. BSRP

Table 77 below shows the KPIs of the company for the period 2010-2017. The overall loss for the period is EUR 29 mln. The debt at the end of 2017 is EUR 43 mln.

Table 77. Inertial Scenario: CLA financial burden in BSRP 2010 - 2017

(million euro)

in thousands of euro	2010	2011	2012	2013	2014	2015	2016	2017
Revenue	132	144	135	130	126	127	122	123
Expenses	139	128	95	92	97	99	105	111
EBITDA	-7	16	40	37	29	28	17	12
EBIT	-8	0	3	-1	-4	-1	-6	-4
Net profit	-8	1	1	-5	-6	-5	-2	-4
Equity	2	229	124	59	34	65	76	72
Assets	48	278	276	241	241	220	209	178
Debts	35	25	118	139	123	102	73	43

Sources: Audited financial reports 2010-2017.

Collective Labour Agreements. However, if the financial reports adjust in the transformational scenario with the potential savings from (1) the cost of the Collective labour agreements that are above the Labour Code in force during that period of EUR 36 mln; (2) the unrealised overcapacity of staff with a cost of EUR 10 mln, and; (3) the reflected decrease in compensation under the PSO contract - EUR 7 mln, the financial result of the company would have improved by EUR 39 mln. Consequently, the loss

could have decreased from EUR 29 mln to EUR 9 mln profit; the debts would have decreased from EUR 43 mln to EUR 4 mln; EBITDA would have increased from EUR 172 mln to EUR 211 mln for the entire period, and equity would have increased from EUR 72 mln to EUR 111 mln (Table 78 below).

Table 78. Transformational scenario - no CLA financial burden in the BSRP 2010 - 2017

(million euro)

in thousands of euro	2010	2011	2012	2013	2014	2015	2016	2017
Revenue	131	144	135	130	126	124	118	123
Costs	135	123	86	85	90	93	101	107
EBITDA	-4	21	49	45	36	31	17	15
EBIT	-4	5	11	7	3	2	-6	0
Net profit	-4	6	10	3	1	-2	-2	-1
Equity	6	238	142	84	66	100	112	111
Assets	48	278	276	241	241	220	209	178
Debts	32	16	101	114	91	67	38	4

Sources: Adjusted audited financial reports 2010-2017.

Total Cost of Opacity and Resistance. The total effect of delay in measures' discovery, delayed implementation or non-implementation in BSRF during the period 2010-2017 is also significant (see Chapter 6). However, if the measures had been discovered and implemented on time, the company operating costs would have been lower by EUR 21 mln. Table 79 below shows that if disregarding the effects of the resistance and the opacity for the period 2010-2017, the financial result of the company would have increased by EUR 21 mln for the period and the loss would have gone from EUR 29 mln down to EUR 8 mln. The indebtedness would have decreased from EUR 43 mln to EUR 21 mln, and equity would have increased from EUR 72 mln to EUR 94 mln (see also Chapter 6).

Table 79. The total cost of opacity and resistance in the BSRP 2010 - 2017

Financial indicators (mln EUR)	2 010	2 011	2012	2013	2014	2015	2016	2017
Revenues	132	145	140	136	136	137	135	137
Expenses	135	140	136	137	142	141	135	140
EBITDA	(3)	21	43	41	30	30	19	13
EBIT	(3)	5	5	3	(3)	-	(4)	(3)
Net profit	(3)	5	4	(1)	(6)	(4)	-	(3)
Equity	7	238	136	75	50	83	96	94
Assets	48	278	276	241	241	220	209	178
Debts	30	15	106	123	107	84	53	21

Sources: Adjusted audited financial reports 2010-2017.

Total effects. Table 80 below shows that if disregarding the effects of the CLAs, resistance, and opacity for the period 2010-2017, the financial result of the company would have increased by EUR 113 mln from EUR 28 mln loss in the inertial scenario (table 81) to EUR 22 mln profit. Company's financial result would have been a small loss only for the last three years; the indebtedness would have decreased from EUR 43 mln in the inertial scenario (Table 78) to EUR 21 mln, and the equity would have increased from EUR 72 mln in the inertial scenario (Table 78) to EUR 122 mln.

Table 80. Total effects of CLAs, opacity, and resistance in the BSRP 2010 - 2017

Financial indicators (mln EUR)	2 010	2 011	2012	2013	2014	2015	2016	2017
Revenue	132	145	140	136	136	137	135	137
Expenses	132	135	129	132	135	140	136	138
EBITDA	1	25	50	46	36	31	18	15
EBIT	-	9	13	8	3	2	(5)	(1)
Net profit	-	10	11	4	1	(2)	(1)	(1)
Equity	10	246	151	95	77	111	123	122
Assets	48	291	276	241	241	220	209	206
Debts	27	21	91	103	80	56	26	21

Sources: Adjusted audited financial reports 2010-2017 BSRP.

8.3. BSRG

Collective Labour Agreements. Table 81 below shows the KPIs of BSRG for the period 2010-2017, as determined in the audited financial statements. The overall loss for the period is EUR 134 mln. The debt at the end of 2017 is EUR 206 mln.

Table 81. Inertial Scenario - CLA financial burden in BSRP 2010 - 2017

(million euro)

in thousands of euro	2010	2011	2012	2013	2014	2015	2016	2017
Revenue	214	224	205	197	193	189	173	177
Costs	188	203	171	159	169	162	168	171
EBITDA	26	21	34	38	24	27	5	6
EBIT	-14	-18	-15	-12	-23	-14	-18	-11
Net Profit	-24	-26	-16	-5	-25	-17	-12	-9
Equity	90	49	30	24	-6	11	41	32
Assets	529	477	444	394	332	325	335	304
Debts	422	398	376	325	287	258	232	206

Sources: Audited financial reports 2010-2017 BSRG.

However, when the financial reports adjust in the transformational scenario with both: (1) the potential savings from the unrealised overcapacity of staff with a total cost of EUR 20 mln and (2) the financial burden of EUR 67 mln for the costs under the

regulations of the Labour Code, the financial position would have improved significantly (Table 82, see also Chapter 5).

Table 82. Transformational scenario - no CLA financial burden in BSRG 2010 -2017

(million euro)

in thousands of euro	2010	2011	2012	2013	2014	2015	2016	2017
Revenue	213	224	205	197	193	186	169	177
Costs	178	194	157	146	155	150	160	163
EBITDA	35	30	48	52	38	36	9	14
EBIT	-5	-9	-2	1	-8	-5	-14	-3
Net Profit	-15	-16	-3	8	-11	-9	-8	-1
Equity	99	67	62	69	53	79	113	112
Assets	529	477	444	394	332	325	335	304
Debts	413	380	345	280	228	190	160	126

Sources: Adjusted audited financial reports 2010-2017 BSRG.

The loss would have decreased from EUR 134 mln to EUR 70 mln; the debts would have decreased from EUR 206 mln to EUR 186 mln; EBITDA would have increased from EUR 182 mln to EUR 262 mln for the entire period; equity would have increased from EUR 32 mln to EUR 112 mln. The loss of the company in 2017 would have been only EUR 1 mln if compared with EUR 9 mln prior to any adjustments.

Total Cost of Opacity and Resistance. The total effect of the delay in measures' discovery, delayed implementation and non-implementation during the period amounts to EUR 111 mln. If those measures had been discovered and implemented on time, the income of Holding BSRG would have been by EUR 9 mln higher, and total costs would have been by EUR 102 mln lower (including EUR 40 mln depreciation). Under these assumptions, the financial result would have improved by EUR 111 mln from a EUR 134 mln loss to a EUR 23 mln loss; the liabilities would have decreased by EUR 57 mln; equity would have increased from EUR 32 mln to EUR 144 mln.

Table 83. The total cost of opacity and resistance in BSRG 2010 - 2017

Financial indicators (mln EUR)	2 010	2 011	2 012	2 013	2 014	2 015	2 016	2 017
Revenues	216	225	215	217	205	206	192	195
Expenses	232	241	213	205	215	201	191	195
EBITDA	34	25	44	47	30	37	16	13
EBIT	(6)	(8)	3	5	(8)	4	(7)	(4)
Net profit	(16)	(16)	2	12	(10)	5	1	(1)
Equity	98	67	66	78	62	102	144	144
Assets	529	482	459	418	365	365	382	355
Debts	414	385	354	295	251	208	177	148

Sources: Adjusted audited financial reports 2010-2017 BSRG.

The effects of the conflicting stakeholders' demands. The story of the reorganisation of BSRG and its subsidiaries demonstrates that the conflict demands of the internal and the external audiences have a slowing down effect on the speed of reorganisation and an adverse effect on company's fitness. The demands of each of the stakeholders reduce the enterprise's adaptive capabilities and increase the mortality hazard. Table 84 indicates that if adverse effects had not taken place the debts would have been repaid in 2016, the indebtedness would have gone down to the normal levels of EUR 38 mln, and the debt crisis would have ended up. The capital structure would have improved due to the increase of equity by EUR 148 mln (improved financial results of EUR 101 mln, and a EUR 47 mln worth increase of equity by the government). The assets would have been EUR 108 mln higher in 2017 because of costs savings.

Table 84. The effects of the conflicting stakeholders' demands in BSRG 2010 - 2017

Financial indicators (mln EUR)	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Revenue	216	225	214	217	205	202	189	193
Expenses	230	242	216	207	215	207	190	189
EBITDA	35	30	48	54	39	39	16	19
EBIT	(5)	(9)	(1)	4	(8)	(2)	(7)	3
Net profit	(15)	(17)	(2)	11	(10)	(5)	(1)	5
Equity	99	67	62	72	57	86	276	280
Assets	529	477	444	394	332	325	382	412
Debts	413	380	344	277	224	183	38	38

Sources: Adjusted audited financial reports 2010-2017 BSRG.

Table 85 below shows the effect of opacity, resistance and the combined effect of conflicting stakeholders' demands on BSRG's fitness expressed by Z-Score.

Table 85. Comparative Z-Score: Inertial vs. Transformational

BSRG	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Real Z-Score	0,32	0,22	0,25	0,56	0,09	0,26	0,26	0,40	1,21
Transformational Z-Score	0,43	0,44	0,71	1,09	0,85	1,37	4,66	4,75	4,73

Sources: Adjusted audited financial reports 2010-2018 BSRG.

In the absence of opacity, resistance and conflicting stakeholders' demands, the Z-Score of BSRG would have been better for the entire period of the transformation from 2010 to 2017. In 2018, the real (inertial) Z-Score is 1.21 compared to 4.73 Z-Score in the transformational scenario – absences of problems with the reorganisation of BSRG. In other words, if the transformation had happened in the best possible way,

the Z-Score would have been 3.9 times higher for BSRG. Otherwise speaking, the absence of hinders for the transformation of the company would have allowed for faster improvement in company's fitness and for faster reorganisation. Respectively, the adaptive capability declines in the presence of opacity, resistance, and conflicting stakeholders' demands. If they had not existed the reorganisation would have been successful in 2015, when the Z-score goes above 1.23 (the likelihood of bankruptcy is high if below). Moreover, the company would have been financially sound thereafter because the transformational Z-Score 4.66 in 2016, 4.75 in 2017 and 4.73 in 2018 is above the level of 2.9 for financially sound companies and above the average for non-bankrupt companies: 4.14. In other words, the transformation of BSRG from bankruptcy to a going concern would have lasted five years, from 2010 to 2015.

CONCLUSION

The institutionalised external and internal audience perceptions, the internal structural inertia and the opacity of BSRG have a tremendous effect on the adaptive capability of the company. Had the managers enjoyed the chance to implement the reorganisation plans in the absence of conflicting stakeholders' demands, structural inertia, asperity and opacity, the leadership would have successfully turned around the BSRG much quicker. The recovery of the going concern status would have been a valid fact within five years after the beginning of the reorganisation or three years earlier than it actually happened. Moreover, one year after the initial recovery, the fitness of the business would have been at the level of a very sound and profitable enterprise. On the contrary, the existence of institutionalisation, inertia, opacity, and resistance not only delayed the recovery back to a going concern status of BSRG till the end of 2018 but also made the enterprise's status very fragile and thereby retaining the mortality hazard of the corporation at a very high level.

Chapter Nine

The Reorganisation in Progression

Chapter 9 presents a managerial self-reflective description of the transformational process within BSRG. The reorganisation started with my appointment as a chairman of the Board of Directors of BSRG on 7 October 2009. At that time, I had a very superficial understanding of what the status of the enterprise was. I did not have any experience and knowledge of the railways. However, I was educated to international business standards, I had respective professional experience, which was largely suitable to lead a turnaround project, and my motivation to succeed was powerful. The rest is the story depicted below.

The initial diagnosis of the status of the company

The only information readily available for the initial diagnosis was restricted to the financial statements, organisational charts, and operating reports prepared for the BSRG top managers. The situation was very far from rosy. The company had outstanding debts worth EUR 425 mln while the net assets stood at EUR 380 mln. The debts made 77% of the assets, and the capital structure was very unfavourable. The loss was EUR 34 mln (15% of revenues): EUR 12.5 mln of it was in BSRF, EUR 5.3 mln in BSRP and a further EUR 16.2 mln in BSRH. The organisational structure was unnecessarily complicated. It consisted of four companies, 315 organisational units and 9 levels of hierarchy. The complexity of the organisation exceeded all expectations and was accompanied by a high level of opacity, i.e., reduced transparency of the operations.

Another potential source of information, though not readily available, was the knowledge of the managers. I started participating in the daily meetings of directors and had discussions with some of them throughout the day. What impressed me most was that the top managers had no comprehension of how difficult the situation was. What they discussed predominantly was operating issues: schedules of passenger trains, loading of freight wagons, and number of locomotives needed for enterprise's daily operations. Neither company's market position nor its financial status were part of the regular discussions. I had the feeling that I was in a working environment where operations went as they usually had been going for decades. Nothing in the thinking

or the behaviour of the executives showed they were ready to face the financial reality. More worrying still, the only available blueprint for reorganisations was a two-page long list of suggestions on how to improve the situation. Considering the magnitude of the crisis in which the corporation was, this document was so general and concentrated almost exclusively on small scale operating issues that it appeared to be missing the point entirely. All the managers were living in a world that did not exist any longer. They were thinking in a way they had been thinking for decades. They were inert and did not anticipate that without prompt action the enterprise would have stopped operating within months.

It got apparent to me that the inertial managers did not realise the new, unfavourable conditions for the BSRG. They did not recognise that without more professional management the reorganisation of the enterprise, the only life-saving radical surgery, was impossible.

The appointment of the transformational management

Since it was clear that new, transformational leadership was a critical prerequisite to initiate the successful reorganisation process of BSRG, we had to focus on the selection of suitable managerial candidates. At that time, the idea of relying on a structured, well thought through and implementable blueprint for the process of recruiting change managers was not on the agenda. However, more or less the desirable attributes of transformational candidates described in Chapter 4 were intuitively sought. The idea was to engage motivated, diversely educated managers, having a more professional understanding of corporate management, not being part of the inertial thinking of the rail man community and demonstrating higher level of adequacy to the positions they occupied. The task was both easy and a difficult one. The tricky part was coming from the fact that the increased mortality hazard of BSRG was not very motivating for the potential newcomers, and the remuneration package was very modest. However, even managers with somewhat lower professional profile were able to bring fruitful changes to company's architecture. In general, the initial steps yielded a compromise between the desired profile of the transformational managers, and the managers available on the market and sought through personal and professional networks.

The process of hiring change managers started a month after my appointment on the Board of Directors. The procedure was relatively smooth as the new managers occupied positions that the inertial managers either did not consider as crucial (marketing, administration, corporate responsibility) or because they realised that in order to compromise with the owner (the minister of transport) they had to give up control of some competencies. The inertial managers, for example, had to accept the appointment of the new Finance Director of the holding as they did not have enough power and convincing arguments against such an appointment. All in all, eleven top managers joined the company within four months. However, to facilitate those first steps of reorganisation, it was essential to incorporate into the first transformation team some of the "inertial" employees of the company who did not match the expected profile of the change managers but possessed valuable knowledge about the systems and the existing inefficiencies. Such employees were, for example, finance managers and accountants who, because of the nature of their jobs, were more pragmatic and aware of the excessive costs structures of the corporation.

The newly created (semi-) transformational team designed the first restructuring plan by March 2010, 5 months after my appointment. That initial plan was subsequently regularly amended, on an annual basis, as the team was identifying new restructuring needs, opportunities, and appropriate restructuring measures. However, the critical point here is that we initiated the first restructuring steps right after my appointment. We could not allow ourselves to wait until the completion of the restructuring plan. It was important to react promptly to avoid any further adverse developments.

The launch of the reorganisation

Turning around a troubled company turned out to be a complicated job. It required an understanding of the complexity of the business and the internal architecture of the company. During the reorganisation, it is strongly recommended to begin the reshuffle without any delay. The starting point is the visible problems. Professional managers, especially those with strong general managerial and corporate finance knowledge, should be capable of understanding the underlying problems and promptly initiate small changes that bring about considerable benefits at that stage. Examples of such reorganisations include enhanced cost control, improved cash flow management, and quick organisational amendments. This is how the reorganisation of BSRG began.

The implementation of small initiatives allowed for better utilisation of scarce resources. The cancellation of needless activities and costs that were part of the inertial management increased the amount of free cash. The free cash was used to pay to problematic suppliers. Secondly, the quick start of the reorganisation signalled to the internal audience that routines ought to change and the onset of the transformation was there with the new leadership. Thirdly, the kick-off of the quick changes conveyed an essential message to the external audience that the new management had identified the problems and started to address them. Finally, it was very motivating for the members of the newly designed transformation team that they got involved in something motivating, challenging and meaningful.

The high speed of the transformation was crucial at that time; any prolonged incremental change would have undermined the significant reduction of costs and generation of free cash that alleviated the problem with the suppliers and kept the company in operation.

The application of those quick changes would be useful for every troubled company in all industries when the suppliers are about to cancel the life-saving deliveries. Even when the company does not have an urgent liquidity issue (very unlikely for a troubled company), the timely initiation of some quick reorganisations would be recommendable as this would facilitate the learning process. The implementation of such rapid changes allows to improve visibility and improve planning as the managers get practically involved in the situation.

An example illustrating the importance of carrying out a quick change simultaneously with the planning would be the first meetings between the World Bank and the Bulgarian government. The WB representatives came to negotiate a DPL loan supporting the reorganisation of BSRG. The vice president of the World Bank was not only pleased that the plan seemed to be feasible, but he also praised the leadership of the corporation for promptly implementing the first reorganisation-oriented measures. The reputation of the management raised, and the backing from the government solidified. Such support turned out to be useful as the reputation of the management was a sharp weapon in subsequent conflicts with the stakeholders.

The collaboration with the World Bank was as a joint project of the two parties. The managers from the World Bank were getting to know the specific circumstances in BSRG and the management of the company were learning from World Bank’s railway

experience (some of the consultants of the World Bank were ex-managers in railway enterprises). The professional approach of both sides produced perfect alignment as a result of rational decision making. Such cooperation will be useful in all the circumstances when the managers of a troubled company work with external consultants and institutions.

The battle with the inertial management

The appointment of a small number of transformation managers was not too disturbing for the old cohort dominating the company. However, the ever-growing number of managers who insisted on challenging the status quo and the power distribution within the organisation changed their attitude. The adoption of the first reorganisation plan in 2010 increased the tension because the plan set different priorities and intended to modify the control over the company resources and expenses. The reorganisation would simplify the operations, increase the process transparency and demand clear accountability. Accountability was crucial as it is usually the requirement of the environment and offers a selective advantage that increases the likelihood of survival. The old cohort could not maintain control over the critical operations and would be challenged by the newly introduced performance requirements that they did not understand and neither did they want to accept. The conflict became inevitable.

There were two primary conflicting interests:

(1) the power to manage and control the resources of the company and

(2) the values and routines inside the organisation.

The power over the company's resources belonged not only to the inertial management but also to the trade unions. Values and routines were part of railwaymen community's daily life. In other words, the challenge set by the new transformational management was severe.

There was a clear demarcation line between the two groups: the inertial management and transformational management. The inertial managers were reluctant to offer information voluntarily and did everything possible to block or at least postpone the implementation of any restructuring measures. The daily confrontation became a norm. Both teams were trying to win the support of the owner (the minister) of the company. The inertial camp claimed that the transformational managers were not railwaymen and did not understand how a rail company should be managed. This contention was

correct from a narrow professional perspective. However, the very nature of the reorganisation at that point did not involve and could not disturb the operations of the company. The transformation team insisted that: (1) If nothing changed the company would go bankrupt, (2) the nature of the reorganisation was compatible with the railwaymen professional rules and logic, and that (3) the inertial management did not propose any feasible alternative to the changes they suggested.

What was important was that regardless of all the collisions between the two opposing sides, the transformation team successively and persistently implemented the reorganisation. The execution of the reforms brought the first promising results by improving the interaction with the suppliers and reducing the operating loss from EUR 34 mln in 2009 to EUR 23 mln in 2010.

As a rear-guard action in March 2011, the inertial managers adopted amendments to the collective labour agreement. The trade unions insisted that the chairman of the Board of Directors and leader of the transformation should not take part in the negotiations. The owner (the minister of transport) of the company agreed. The outcome compromised the reforms by increasing operating costs. As a consequence of that, the prime minister fired the minister of transport in May 2011. Usually, ministers are rarely fired for one mistake; however, at that time the possible bankruptcy of BSRG was a hot political topic. Moreover, the finance minister played an essential role in the process of dismissal as he was not satisfied with the speed of reorganisation and did not want to invest money into “a black hole” as he described the jeopardised-by-insolvency BSRG. Two months later, the owner (the new minister) substituted the inertial Board Members with transformation managers. This action changed the attitude of those railway managers who stayed in the company, and they became more content with the reorganisations.

The battle with the trade unions

The removal of the inertial top management and the reinforcement of the transformation team with new members allowed the turnaround management to speed up the reforms. Strengthening of the transformation management was a product of the professional network of transformational managers who had already initiated the reorganisation of BSRG. The mobilisation of the political support came from the clear plans forged by the transformational management, the success of the initial

restructuring and the rational arguments given to the politicians in favour of the future reforms. The goal was to reduce inefficiency and set free more cash for repaying the overdue debts. The measures were radical: (1) dismissal of 2000 employees, (2) cancelation of 120 most loss-making passenger trains, (3) privatisation of BSRF, and (4) resurrection of a pro-reforms collective labour agreement.

After the removal of the inertial leadership, the plans of the reformers jeopardised the *ancient regime*, evolved during the last two decades. The uncompromising agenda of the transformational leadership endangered the power, the image and the status of the trade unions. The management of BSRG wanted to speed up the reorganisation. However, that was in dissonance with the prevailing state of affairs that were institutionalised within BSRG during previous decades. The management stopped the practice of directly collecting the trade union membership fees by the payroll, thereby depleting their resources and undermining their power. The response of the trade unions was a threat of industrial action (strike) on a national scale.

The prime minister and the government got involved in the negotiations between the management and the trade unions. The process became a tactical game, with both sides trying to whip up enough support to prevail. It was crucial for the transformation leadership to build up a coalition in favour of the reorganisation plans. The aim was to generate support within a broader, external audience and to undermine the confidence of the potential participants in the strike. The tactic was the following: (1) the World Bank and other organisations supported the restructuring, (2) the initial success of the reforms, complement by detailed argumentation why the further improvements were unavoidable, was an excellent argument in front of the government, (3) the transformational leadership justified the reorganisations publicly via all media, (4) in response to the request from the executives of BSRG, several business organisations aired their support for the reorganisation plans.

The whole campaign lasted three months, and the transformational leadership won. Less than 10% percent of the employees participated in the strike even at its peak. It continued for 24 days from 24 November through 17 December 2011 and was the ultimate demonstration of opposition to the reorganisation of BSRG. During that time many passenger trains did not operate.

The strike did not succeed. Moreover, this was an event that increased the adaptive capability of BSRG. The trade unions lost the battle for the future of the company. The

defeat of the trade unions reset the clock of the internal institutionalisation and structural inertia. The attitudes and the motivation of both internal and external audience of the organisation quickly changed. Taken-for-granted features and beliefs did get delegitimised, and the employees forgot about the *ancient regime* to a certain extent. The internal audience members were no longer tied in a very dense network, and the cultural opposition they were able to generate was not as efficient as before. This momentum held for a while and allowed a sustainable change of organisational characteristics. The whole process reminds of Schumpeter's idea of creative destruction – the "process of industrial mutation that incessantly revolutionises the economic structure from within, incessantly destroying the old one, incessantly creating a new one. (Schumpeter, 1942)"

The decisions were complex, involving multiple parties as well as strategic and technological considerations. The efficiency of these decisions was dependent not only on the managerial talent but also on the institutions that provided the transactional framework.

The transformational management speeded up the reorganisation. 2000 employees left the company, both BSRF and BSRP adopted new pro-business collective labour agreements allowing the reduction of excess employees contingent upon the increase or decrease of the business cycle; the management of BSRP stopped 120 loss-making trains from operations. The terrain was free to execute numerous reorganisation steps within the next years.

The game with the banks and the suppliers

In 2010 and 2011 the BSRG management reduced the overall debts of the corporation by EUR 36 mln. However, because BSRG had no resources to repay all the debts as it was contractually scheduled, all the funds were used to pay the suppliers. The strategic decision to use the free cash to pay the suppliers and to terminate the payments to the banks was the only possibility at that time, the only way to keep the enterprise operating by securing the supply of electricity, fuels, spare parts, and all the other consumables for the daily operations. In March 2010 a new cash flow management procedure was adopted. From then on, payments were tightly controlled by the board of directors. The strategy was: (1) solve the problem with the suppliers, (2) negotiate with the banks to earn time for the reorganisations, (3) speed up the

reforms to increase cash available for repayment of the debts, (4) secure state-aid permission from the European Commission, (5) convince the government to repay the last part of the outstanding debts, and (6) solve the indebtedness issue.

The strategy faced many challenges: some of the suppliers blocked the company accounts, the banks imposed penalty costs, the state-aid permission was given after significant delay, and the government was reluctant to transfer the money to the BSRG on time. However, the critical element of the strategy was that regardless of all the hurdles faced on the way to the final goal, the management implemented it consistently and persistently. The execution of the reforms accumulated cash that was used for the settlement of a portion of the overdue amounts. Making the problem smaller and smaller was giving the transformation management arguments in communication with all the parties involved in the decision making. The banks were made hesitant whether to wait for the reorganisation outcomes patiently or to undertake severe actions against the company. Step by step, debt restructuring and rescheduling agreements were completed with some of the lending institutions. The European Commission had no other option but to issue the state-aid permission. In due course, the last unsolved issue was the final payment, due to the only lending group of banks with which no agreement took place. The government had to take care of this last payment. The need for governmental intervention at the last stage of the reorganisation was visible since the beginning of the reforms. The transformation management clearly articulated this inevitability. The positive outcome of the reorganisation gave a substantial justification to the minister of transport to prevail over the finance minister and convince the prime minister to back up the last disbursement in solving the indebtedness problem. Bankruptcy issue was finally sorted out in July 2018 because of the consistency of the strategy and the transformational management's persistence to apply it regardless of all the obstacles.

The puzzle with the government

The behaviour of the governmental institutions was not always consistent with the transformation plans of the management. It was complicated to follow reorganisation agenda that did not enjoy reliable and continuous support by the owner (the governmental institutions). The management had to cope with this wavering behaviour and use different tactics to manipulate the more reliable allies. The management's reaction in every critical situation was contingent on various factors, and the problems

were resolved case by case. The settlement of the remaining debts can illustrate this approach. The government needed a state-aid permit to recompense part of BSRG's outstanding debts at the last stage of the reorganisation. The finance minister was reluctant to support the company's application in front of the European Commission. However, the management convinced the banks that had credited the BSRG that the permission from the European Commission was mandatory if they want to get repaid. Correspondingly, the banks began helping themselves by active lobbying in favour of BSRG's management front of the European Commission and through the national governments.

Furthermore, the progressive reduction of the overdue debts resulting from the reorganisation encouraged the European Commission to issue the permit. This fact by itself reinforced the management's arguments in front of the government. Therefore, the decision of the European Commission was publicly broadcasted on a considerable scale. At the end of the day, the government transferred the money to the accounts of the enterprise.

The outmanoeuvre with the hidden players

The BSRG as one of the biggest state enterprises is an object of intense interest from the wider public. The corporation's management controls significant assets and resources. Therefore, it is not surprising that political parties, lobbying groups, providers of supply and assets, B2B clients, media and non-profit organisations tried to influence the decision makers within the corporation. Some of the players in this field even attempted to determine who should be in the top management of the enterprise. However, the pressure exercised on the administration was presented as "care for the good of the company," and the real interests of lobbyists in most cases remained hidden from the public. The actors in this theatre organised pressure groups. The participation in such pressure groups was temporary and contingent on the specific interest of the lobbyists and the progress of the situation in BSRG. Throughout the entire process of transformation, many public campaigns against the corporation's management and the leader of the change took place. These events created strong asperity and in some instances slowed down the reorganisation.

There was no single recipe for tackling such asperity. However, two approaches helped in the process of transformation of BSRG to address the issue. First, the change

management was all the time able to give sound justification for the activities undertaken and was actively advocating publically the reorganisation goals, status, plans and the success of the reforms. Second, the management was asking for public support from experts and organisations when it was possible.

The development approach

Another decent example of dealing with the political challenges was the trial to privatise BSRF. In 2012, the government started the procedure of privatisation. The process was very optimistic, as buyers were present. However, the government resigned, and the new government cancelled the privatisation. The idea behind the sale of BSRF was to use the proceeds for the settlement of debts. The transaction was even more important for the reorganisation of BSRG as the funds received would fall within the category of own contribution to the restructuring of the company. Such an amount of own contribution would guarantee the issue of the state-aid permit in 2012. As the government cancelled the privatisation, those benefits were no longer available. However, the transformation management's planning approach alleviated the difficulty of the situation. The management had, all the time, alternative scenarios already developed. That type of planning approach allowed the management to continue with the reorganisation by having readily available another opportunity to apply for a state-aid permit.

The entire process of transformation of BSRG was very complicated and dependent on severe contingencies, such as the sequence of events and unpredictable reactions of the various stakeholders. The opacity of the organisation limited the access of the decision makers to operating information. The capabilities of the management allowed only quasi-fit to what a transformational manager should be and obscured the interpretation of the whole complexity of the business. In this situation, the management's approach was to develop alternative scenarios, mitigate as many risks as possible in the plans, and be prepared to develop alternative strategies. The first and the second reorganisation plans were purposefully unrestricted for new ideas and continuously updated on a regular basis. The managers were purposefully looking for new initiatives year after year. The whole planning and budgeting resembled a learning system for incorporation of new ideas and development of multi-scenarios of the reorganisations.

The best business practice in action

In general, the best business practices trained by business schools and developed by corporations equip the managers with powerful tools helping them grow business across countries and industries. The problem with the best business practice is applicability. The issue with the lack of consistency in the implementation and the behavioural aspects of neglecting the best business practices is present in all the organisations around the globe. However, three points of the issue were even more apparent in the troubled BSRG.

In troubled companies, inertial executives are not aware of the best business practices. Managerial ignorance within BSRG resulted from the long-lasting experience and education of the executives. In the internal inertial environment, which was in dissonance with the fast-shifting external environment, top managers' knowledge was surely obsolete. Furthermore, the inertial managers were not able to perceive this critical fact. Moreover, they tried to solve contemporary problems via outdated means.

Secondly, many transformation managers did not possess sufficient knowledge of the best business practices or did not have enough experience with them. The compromise with the attributes they needed in order to be transformation managers led to the quasi-fit discussed in the previous parts. In quasi fit, the implementation of best business practices was problematic.

Thirdly, the inertial environment of the troubled BSRG was resistant to changes, including the use of otherwise effective and efficient business practices that would challenge the comfort and the knowledge of the old cohort (inertial management).

Finally, the process of institutionalisation was a blocker to the best business practices. The stakeholders' belief that BSRG as a state-owned enterprise should be conservative and humble and did not allow the managers to begin a business process reengineering. The managers did not receive a permit as they blocked the minister.

Nevertheless, the use of the best business practices supported the reorganisation of BSRG significantly. The most useful was the implementation of the Activity Based Planning and Zero-Based Budgeting. These valuable tools made visible the inefficiency in the operations and improved the fitness of the company.

The unavoidable power of structural inertia

In the process of BSRG's reorganisation, I had many meetings and negotiations with different players. All the discussions with trade unions, lending institutions, governmental officials and NGOs depict the "invisible" strength of inertia. The leaders of trade unions confirmed that they understood the reorganisation ideas, but they had no other option except to oppose them. The reason for that was that they could not convey the reorganisation ideas to the membership of the trade unions. Employees' habits, traditions, perceptions and mentality were so inertial that trade union leaders were under the effective control of membership's inertial thinking. The same trap of inertia was controlling the administrative officials responsible for generating support for the reorganisation of BSRG on a governmental level. The minister, for example, was not able to overcome the inertial thinking of his colleagues. The negotiating bankers understood the logic of the reforms and appreciated the successful reorganisation outcomes, but did not get support in favour of debt restructuring, because of the dominating routines and perceptions of decision makers in the banks. Consequently, because of the lack of support, the negotiating bankers opposed the whole process. In other words, the representatives of the critical stakeholders comprehended the transformation but had to resist it. The structural inertia was so strong that those who grasped the reorganisation were not able to support it on many occasions.

The death of the transformation management

Transformational management was not a compact and homogenous structure. Since the very beginning, the team was a compromise between the needed type of executives capable of changing the company and managers available on the market. Team members' knowledge, skills, values and goals sometimes varied significantly. Some members of the group did not have the talent to be transformational managers. More importantly, some of them would not be successful executives even in a stable environment. The presence of these people within the transformational management was justified only by contingency factors. They took part in the reorganisation just because no better managers were available on the market at that time.

The differing perceptions among the representatives of the transformational cohort produced many conflicts and crises inside the group. It was not a simple task to strike a balance between all these people. Some managers, feeling more comfortable in the

stable environment of the old fashion routines and moral norms, joined the camp of the old cohort. Subsequently, they were fired when the transformational managers won the internal battle.

Through the years, the members of the team went through multiple changes. Many good professional left and new managers came. Consequently, the configuration inside the team and the perceptions of the team members changed, as well. Some of the managers, who in the beginning did not fit to the environment of the company because of their pro-change orientation, left the company and some of those who stayed started liking the new status quo constructed by them. The eagerness to undertake challenging reorganisation-oriented actions slowly retreated to the desire for comfort. The feeling of being an important boss blurred the perceptions of some directors. The ego began dominating over the professional motives. The desire to control the corporation got stronger than the motivation to complete the transformation. Some managers did not want to undertake any risky activity that could endanger their presence in the top management of BSRG. This attitude became the soul of emerging conflicts among the leaders who were supposed to rescue the company and recover its “going concern” status. Imperceptible with the success of the reorganisation, part of the “transformation managers” became inertial managers – a product of the new institutionalisation that had taken place as the interaction between the internal and the external audience in the process of transformation. The newly born inertial managers were mainly those who joined the transformational team because of the necessary compromises in the course of reorganisations. Fortunately, the end of the ex-transformation management came after the resolution of the debt crisis and after the recovery of the status of “going concern” of each company in BSRG, i.e., after the completion of the rescue reorganisation.

The new reality was not encouraging: some pro-change managers had become inertial managers and were blocking further reorganisations. I would consider this stage as the end of the first part of the transformation of BSRG. The transformation management rescued the company from bankruptcy but did not have the time to transform it into a modern corporation to the extent that it is possible for a state-owned enterprise. The team fell apart, and the new owner of the company fired its key members. The new minister did not comprehend what was happening in BSRG and neither did he understand the need to continue the transformation of the company.

Following his private agenda, he appointed managers close to him in the top management of company. That was the end of the reorganisation. It is difficult to state whether the end of the reforms was inevitable; however, it is clear that the risk of decay of any transformational team is an inherent feature of each reorganisation as it is about corporation owner's myopia. Such issues could be overcome only if the contingency factors sustainably support the transformation.

My leadership perspective

My perception since the beginning of the reorganisation was that we had to design an appropriate plan to restructure the corporation and build up a team capable of implementing the restructuring measures. In the outset of the reform, I believed that using the best business practices would allow us to succeed. I was not able to foresee all the obstacles that subsequently weakened the effects of the business techniques we applied. I did not comprehend the role of the structural inertial entirely and neither did I consider the magnitude of the institutionalisation appropriately. However, my goal was to rescue the BSRG from bankruptcy, and I was consistently chasing it throughout the entire transformation process. The troubles we experienced in the process of transformation discouraged many transformational managers, but not me. Many of the colleagues left the company. However, my priority was to advance regardless of all the difficulties. When concrete transformational measures were blocked, I did not panic but instead pushed even harder on the implementation of those measures where resistance was weaker. I deliberately ignored the temporal difficulties with the implementation of the restructuring measures in the sectors where the opposition was strong, working on the progress of the change as a whole. The strategy was to wait until the conjuncture changes and the power of the management prevailed over the resistance of the opposing side. The advancement of the reforms was accumulating argumentation to proceed with those elements of the reorganisation where the opposition was strong enough to block them. My formal position of CEO was helping me to manage the process, but my leadership capacity, professional competence, and charisma played an equally important role. The formal position of CEO without the right concept and the ability to implement would bring zero effect.

Yordan Nedev:

„From what I know, a leader is someone who can motivate and empower people. And then as a consequence hit strategic goals.

When speaking about a vast and complex structure like a state-owned quasi-market-oriented legacy-buried mastodon, managing change requires super-human powers. Unfortunately, none of us possesses any of those. However, mystically, when one profoundly believes in his rightfulness, has a priorities' plan in his head, garnished with a touch of political will, and is talented at building rapport with a bunch of rather smart people that are ready to take insane challenges, things might eventually work out just fine.

There is never a strictly right decision to a managerial problem. However, a well thought-out one, swiftly and rigorously implemented is always good enough. This is what a leader should foster.

Vladimir has been at the forefront of BSRG, with a couple of intermittent interruptions, for nearly a decade – a record in its own right. As a consultant and then a colleague of his, I have witnessed quite some occasions on which his strong leadership was crucial.

First, onboarding a reasonable team of professional managers willing and able to conduct severe restructuring and implement real business practices in a virtually bankrupt organisation that was huge (14,000 employees), legacy driven (there were and still are valid operational instructions from the 1970s) and utterly political, without the adequate remuneration and in a hostile working environment, was a distinguishing virtue of Vladimir as a leader.

Then, after a series of exploratory projects had been run throughout the companies, and a set of analytical tasks had been accomplished on top, time for decision-making had come. A decision for a severe cut in the workforce had been taken. Some 2000 employees had to be sacked to give a breath of fresh air to the companies.

Implementing the decision, though, was the hardest and riskiest part of it all. For that to have had any chance of actually starting to happen (not even thinking of its potential success), a positive social and political setting had to be created. Thus, Vladimir started building allies – another trait of a good leader – with anyone who could positively influence the outcome – media, economic analysts, local management, even trade

unions. And, it worked. There was a strike, a rather long one, but toothless. Moreover, the goal was achieved.

Lastly, the top view on the company's balance sheet would tell anyone that the abnormal debt burden is suffocating the organisation. An easy priority number one to take care of. A battle that no person with lack of long-term vision and determination as well as immense patience would dare to get into. Bringing the net debt from close to half a billion euro at the beginning of the mandate to virtually zero by its end 10 years later is a testimony for real leadership in the making."

Conclusion

The transformation of troubled companies is a very difficult process hindered by many internal and external factors. The theoretical framing shows the issues in the right lighting. Inertia and institutionalisation have a tremendous negative effect on the ability of the organisations to change in order to adapt to the environmental shifts. The power of the factors undermining the reorganisations is so strong that in most cases the management will probably fail.

The key findings of the dissertation are:

Firstly, the crucial role of management's capacity to reform the organisation or block the process of adaption to the environmental shifts presented in Chapter 4. The capacity of the management to turn the organisation around is the starting point of every reorganisation. It might save the company or speed up the bankruptcy.

Secondly, the inertial forces inside the organisation that limit the transformational efforts could have different manifestations. The blocking role of trade unions depicted in Chapter 5 is one of the most powerful forces that could make meaningless the reorganisation efforts.

Thirdly, company's opacity slows down the reorganisation efforts and prolongs the timing of the entire process of transformation making it more expensive. Chapter 6 presents the negative effects of opacity.

Fourthly, the combination of external and internal factors sabotaging the reorganisation efforts presented in Chapter 7 reveals how the reorganisation process complexities by factors outside the control of the management of the organisation. The

stakeholders' contradictory demands, when exercised with strong power could turn the reorganisation into 'mission impossible'.

Finally, the damaging effect resulting from the combination of all the inertial and institutional factors presented in Chapter 8 is tremendous. The cost of the reorganisation is huge. The duration of the transformation could be prolonged to an extent that shatters all the reorganisation efforts and jeopardises the existence of the organisation.

However, while confirming to certain extend the validity of the ecology population theory, the dissertation simultaneously presents managerial approaches that potentially increase the likelihood of organisational survival.

First, every reorganisation needs a strong leader able to understand the problems of the company and the complexity of the situation. The leader should be capable of developing and motivating the transformational team and skilled enough to implement the reforms.

Second, a strong transformational team should be grown in the organisation.

Third, the initial diagnoses of the troubled company should happen quickly and the reorganisation should begin immediately. Learning and implementing should take place as a parallel process.

Fourth, the inertial managers should be set free from the company as soon as it is possible.

Fifth, the trade unions and else sources of inertia should be tackled on a permanent basis as a part of the transformational business plan.

Sixth, the management should set up priorities in the battles with the demanding stakeholders as an integrated part of the transformational agenda.

Seventh, the best business practices should be put at the place, as they are the only tools that bring success to that part of the reorganisation that is under control of the management.

Eighth, the managers should incorporate in the entire execution of the reorganisation the understanding that the institutional inertia is an unavoidable source of obstacles at every stage of the reorganisation process.

Finally, the transformational managers should have the understanding that the death of the transformational management, as such, is an almost inevitable process. What is more, this understanding should guide the recruitment of turnaround managers since the beginning of the process. Moreover, the team that is doing the reorganisation should be reviewed and reorganised on a permanent basis.

APPENDIX 1

Collection and storage of data

The following data was collected in MS Excel to determine the indices and to make analytical cross sections.

General:

1. Year the data is relevant to
2. Legal name of company
3. Name of employee
4. Sex

Average age:

5. Age of employee

Professional experience:

6. Years of experience within the BDZ system
7. Total years of professional experience

Versatility of education:

8. Level of education (degree): if there is more than one, each on a new line. This include supplementary professional qualifications such as ACCA. Each level of education (degree) will require the following: year of award, education prior to or upon the transition to market economy (if the exact year of award is unknown), name of institution, name of qualifications / specialty
9. Type of level of education (degree) as per Ministry of Education's standard nomenclature: professional degree, Bachelor, Master's, Doctoral degree.

Adequacy of competences and positions in when promoted within the company:

10. Names of companies where the employee has worked for beyond the BSRG
11. Names of positions
12. Length of experience at each position

APPENDIX 2

Statistical analysis of key performance indicators (detailed explanation)

The study aims to establish whether a significant difference exists between the inertial management and the transformational management performance indicators. In order to test this objective, by the quantitative employee performance metrics of the BSRH management, their overall performance will be evaluated and will be determined whether it affects any of the key financial performance indicators of the Holding.

In the following analysis, the usage of data only for BSRH is because:

1. The critical reorganisation decisions are predominantly taken on a group level.
2. The debts are accrued in BSRH.
3. Costs are one of the key indicators, and some of them cannot be allocated to the subsidiaries for certain periods.
4. Statistical data has longer time-period on group level and better presents the trends.

The first step is to determine how many quality indicators will be used to evaluate the management. The initial information available with us is six quantitative variables of the management covering the period 2002-2017.

Table 1. Key Management Performance Indicators

Indicator	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Average age (years)	47	47	46	48	50	51	55	53	42	42	42	48	49	46	46	48
Professional experience (years)	22	21	21	24	26	27	31	28	18	17	16	23	23	20	20	21
Experience in BSR (years)	19	17	16	16	19	18	21	20	7	7	4	12	13	7	7	9
% of graduates after 1990	6%	7%	14%	8%	6%	5%	5%	10%	64%	63%	90%	33%	38%	75%	78%	75%
% of educational diversity	43%	35%	41%	36%	45%	53%	55%	70%	100%	100%	140%	100%	75%	213%	167%	150%
% adequacy to the occupied vacancies	3%	2%	0%	0%	0%	0%	0%	0%	29%	38%	60%	7%	13%	88%	78%	60%

In order to determine the number of qualitative variables and which quantitative variables to be included (into a set), factor analysis will be applied. The purpose of this statistical method is to determine the factors that are common to a set of variables among which correlation connections exist. These factors are called hidden because they are not directly observable, usually.

The hidden factors are established through the following steps:

1. The hidden factors are established by exploring the relationships between measurable indicators (quality indicators of the management);
2. The hidden factors modelling - for this purpose the following model is used:

$$F_i = b_{i1}.z_1 + b_{i2}.z_2 + b_{i3}.z_3 + ... + b_{ik}.z_k$$

where $z_1, z_2, ..., z_k$ so-called standardised values are calculated based on the measurable indicators $X_1, X_2, ..., X_k$;

3. The hidden factors are naming – usually, this is the most challenging part of the analysis.

Initially, all variables are included in the factor analysis in order to establish whether any of these variables should be excluded from the factor analysis.

Table 2. Anti-image Correlation

question	Anti-image Correlation	Correlation coefficient
X1	average age (years)	0,650
X2	the total length of service (years)	0,762
X3	length of service in the field of railway transport (years)	0,727
X4	% of those who have completed their education after 1990	0,757
X5	% of the variety of completed HEIs	0,757
X6	% adequacy of the positions occupied	0,755

Correlation coefficients in Anti-Image Correlation table are private correlation coefficients that indicate the adequacy of inclusion of the variable into the analysis.

The rule is that a variable should be excluded if it has a correlation coefficient value of less than 0.500. In this case, all variables remain in the further analysis, which implies high general adequacy of the model, which amounts to 0.735, determining its character as "mean."

Table 3. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**.735**
Bartlett's Test of Sphericity	Approx. Chi-Square	156.982
	df	15
	Sig.	.000

This value allows claiming that all six quantitative variables are related to at least one implicit variable, i.e., with at least one hidden factor.

The number of hidden factors determines through the values of Eigenvalues in Scree plot.

Fig. 1 Determination of the Number of Hidden factors

The Determination of the Number of Hidden Factors Figure shows that the graph becomes flattered after the second factor and that determines that the number of hidden factors consist of two. As a result, the number of hidden factors is fixed to two.

However, the Determination of Belonging to a Hidden Factor Table shows that the analysis attaches all six factors to only one hidden factor.

Table 4. Determination of Belonging to a Hidden Factor

Component Matrix[a]

	Component	
	1	2
Average age (years)	**-.804**	.586
Work experience (years)	**-.866**	.481
Experience (years)	**-.981**	.039
% of graduets after 1990	**.969**	.163
% variety of educational institutions	**.853**	.502
% adequacy for the management position	**.907**	.374

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

Therefore, the rotation is also needed.

Table 5. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.848	80.808	80.808	4.848	80.808	80.808	3.204	**53.401**	53.401
2	.995	16.584	97.392	.995	16.584	97.392	2.639	**43.991**	97.392
3	.096	1.604	98.996						
4	.033	.543	99.539						
5	.019	.317	99.856						
6	.009	.144	100.000						

Extraction Method: Principal Component Analysis.

Rotation is performed through the most commonly used method - Varimax and the last part of the Total Variance Explained Table – Rotation Sums of Squared Loadings gives information on the factors after the rotation. Most of the total dispersion is due to the first hidden factor and is equal to 53.4%. To the second factor are due to 43.9% of the total dispersion of quantitative variables.

Table 6. Rotated Component Matrix[a]

	Component	
	1	2
average age (years)	-.226	**.969**
total length of service (years)	-.341	**.930**
length of service in the field of railway transport (years)	-.717	**.670**
% of those who have completed their education after 1990	**.841**	-.510
% of the variety of completed HEIs	**.974**	-.177
% adequacy of the positions occupied	**.931**	-.309

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalisation. a. Rotation converged in 3 iterations.

Quantitative variables are attributable to the factor with the highest absolute value. The Rotated Component Matrix Table shows to which from the two hidden factors is related to the variable.

Quality measure	**Quantitative variables**
QM1	X1, X2, X3
QM2	X4, X5, X6

After attributing the variables to the specific factors, they are named. After careful consideration of the essence of the matter to which the questions are addressed and what they generally expressed, they can be named in the following way:

Quality measure	Name
QM1	Professional experience
QM2	Professional competence

After determining the number of hidden factors, they are formed as a single indicator. This will be made on the basis of the Helvig's composite indicator. Converting the measurable factors into one through this method conditionally turns quantifiable factors into one qualitative measure whose name comes out of the factor analysis. The method belongs to the group of multidimensional methods of statistical analysis and standardises different inhomogeneous values. Its purpose is to turn quantitative variables into a qualitative variable to evaluate the level of management over the period under review. The composite indicator can occupy values ranging from 0 to 1, and the closer it is to 1, the higher the quality evaluation of the management is.

Initially, the mean of each indicator $\overline{x}_j$ and its mean diversion (standard deviation) σ_j is calculated. Then the difference of each indicator value to its mean is determined. This difference is divided by its standard deviation, which standardises the distribution of this variable with mean 0 and dispersion 1.

$$z_{ij} = \frac{x_{ij} - \overline{x}_j}{\sigma_j}$$

Thus, each of the variables transforms into a new distribution with the same theoretical mean 0 and dispersion 1. Means and dispersion of the indicators constituting:

QM1

	$\bar{x}_j$	σ_j
X1	48	4
X2	22	4
X3	13	6

QM2

	$\bar{x}_j$	σ_j
X4	36%	31%
X5	89%	52%
X6	24%	30%

In four of the six variables, there is a significant diversion around the mean, suggesting that there was a difference between the units of this indicator over the years. Both variables have had approximately equal values over the years and these are the "average age (years)" X1 with an average age of 48 years and a dispersion of 4 years around the mean and "total length of service (years)" X2 with a total average length of service of 22 years and a dispersion about 4 years around the mean.

The standardised values are calculated in next table.

Table 7. Standardised Values

Standardized Values QM1

Показател	Z_{i1}	Z_{i2}	Z_{i3}
2002	-0,1	-0,1	1,0
2003	-0,1	-0,3	0,7
2004	-0,4	-0,3	0,5
2005	0,1	0,4	0,5
2006	0,7	0,9	1,0
2007	1,0	1,2	0,9
2008	2,1	2,2	1,4
2009	1,5	1,4	1,2
2010	-1,5	-1,1	-1,1
2011	-1,5	-1,4	-1,1
2012	-1,5	-1,6	-1,7
2013	0,1	0,2	-0,2
2014	0,4	0,2	0,0
2015	-0,4	-0,6	-1,1
2016	-0,4	-0,6	-1,1
2017	0,1	-0,3	-0,8

Standardized Values QM2

Показател	Z_{i1}	Z_{i2}	Z_{i3}
2002	-1,0	-0,9	-0,7
2003	-0,9	-1,0	-0,7
2004	-0,7	-0,9	-0,8
2005	-0,9	-1,0	-0,8
2006	-1,0	-0,8	-0,8
2007	-1,0	-0,7	-0,8
2008	-1,0	-0,7	-0,8
2009	-0,8	-0,4	-0,8
2010	0,9	0,2	0,2
2011	0,9	0,2	0,5
2012	1,7	1,0	1,2
2013	-0,1	0,2	-0,6
2014	0,1	-0,3	-0,3
2015	1,2	2,4	2,1
2016	1,3	1,5	1,8
2017	1,2	1,2	1,2

Once the standardised values are calculated, a reference value is selected among them. This is the value farthest from the mean with a positive or a negative sign. This value shows the year with the best indicator of the given variable. The references are

also called incentives because they improve the management quality measure. Accordingly, the most significant differences, but with a reference sign opposite to the values, are called dissimulators as they deteriorate the management quality measure.

In order to eliminate the negative values, the differences are squared and the total sum of the squared values of the three indicators for the year is determined.

$$c_{io} = \sqrt{\sum \left(z_{ij} - z_{0j} \right)^2}$$

Where:

c_{i0} – a taxonomic distance between the i-th unit and the reference point;

z_{ij} – the standardised value of the j-th indicator at the i-th unit;

z_{0j} – the reference point for the j-th variable.

The idea is that the higher the total sum of the indicators, the closer they are to the dissimulator and vice versa. Dispersion Tables show that the year with the highest qualitative evaluation for the first quality measure is 2012 and 2015 for the second one.

Table 8. Dispersion

Dispersion around the etalon point for QM1

Показател	Z_{i1}	Z_{i2}	Z_{i3}	SUM	C_{i0}
2002	1,9	2,3	7,4	11,7	3,4
2003	1,9	1,6	5,6	9,1	3,0
2004	1,2	1,6	4,8	7,6	2,8
2005	2,8	4,1	4,8	11,6	3,4
2006	5,0	6,4	7,4	18,8	4,3
2007	6,3	7,8	6,5	20,5	4,5
2008	13,1	14,4	9,5	37,1	6,1
2009	9,4	9,2	8,4	27,1	5,2
2010	0,0	0,3	0,3	0,6	0,7
2011	0,0	0,1	0,3	0,4	0,6
2012	0,0	0,0	0,0	0,0	0,0

Dispersion around the etalon point for QM2

Показател	Z_{i1}	Z_{i2}	Z_{i3}	SUM	C_{i0}
2002	7,2	10,7	7,9	25,8	5,1
2003	7,0	11,7	8,0	26,7	5,2
2004	5,9	10,9	8,4	25,3	5,0
2005	6,8	11,6	8,4	26,9	5,2
2006	7,2	10,4	8,4	26,1	5,1
2007	7,3	9,5	8,4	25,3	5,0
2008	7,3	9,2	8,4	25,0	5,0
2009	6,5	7,6	8,4	22,5	4,7
2010	0,7	4,7	3,8	9,2	3,0
2011	0,7	4,7	2,8	8,2	2,9
2012	0,0	2,0	0,8	2,8	1,7

2013	2,8	3,1	2,1	8,0	2,8
2014	3,8	3,1	2,7	9,6	3,1
2015	1,2	1,0	0,3	2,6	1,6
2016	1,2	1,0	0,3	2,6	1,6
2017	2,8	1,6	0,8	5,2	2,3

2013	3,3	4,7	7,2	15,2	3,9
2014	2,7	7,0	6,1	15,9	4,0
2015	0,2	0,0	0,0	0,2	0,5
2016	0,1	0,8	0,1	1,0	1,0
2017	0,2	1,5	0,8	2,5	1,6

However, Helvig's method goes a step further by further standardising once again the values thus obtained by placing them in a range from 0 to 1. This facilitates interpretation allowing the indicators to be comparable to one another.

. Standardisation at this stage is made as follows:

$$s_0 = \sqrt{\frac{\sum_{i=1}^{n}\left(c_{i0} - \bar{c}_0\right)^2}{n}}$$

$\bar{c}_0$ and s_0 are calculated using the formulas of the arithmetic mean and the standard deviation.

The multidimensional indicator is calculated using the following formula:

$$Q = 1 - \frac{c_{i0}}{c_0}$$

where:

i_i – the multidimensional indicator for the i-th unit of the studied population.

$$c_0 = \bar{c} + t \times s_0$$

The multidimensional indicator for the two measures changes over time as follows. The values themselves can be seen in the Values QM Tables below.

Table 9. Values of QM

Values of QM 1

Indicator	C_{i0}	$\left(c_{i0} - \bar{c}_0\right)$	$\left(c_{i0} - \bar{c}_0\right)^2$	QM 1
2002	3,4	0,6	0,3	0,4
2003	3,0	0,2	0,0	0,5
2004	2,8	-0,1	0,0	0,5
2005	3,4	0,6	0,3	0,4
2006	4,3	1,5	2,2	0,3
2007	4,5	1,7	2,8	0,3
2008	6,1	3,2	10,5	0,0
2009	5,2	2,4	5,6	0,1
2010	0,7	-2,1	4,4	0,9
2011	0,6	-2,2	5,0	0,9
2012	0,0	-2,8	8,1	1,0
2013	2,8	0,0	0,0	0,5
2014	3,1	0,3	0,1	0,5
2015	1,6	-1,2	1,5	0,7
2016	1,6	-1,2	1,5	0,7
2017	2,3	-0,6	0,3	0,6
	2,8		**1,6**	

Values of QM 2

Indicator	C_{i0}	$\left(c_{i0} - \bar{c}_0\right)$	$\left(c_{i0} - \bar{c}_0\right)^2$	QM 2
2002	5,1	1,4	1,9	0,3
2003	5,2	1,5	2,2	0,3
2004	5,0	1,3	1,8	0,3
2005	5,2	1,5	2,3	0,3
2006	5,1	1,4	2,0	0,3
2007	5,0	1,3	1,8	0,3
2008	5,0	1,3	1,7	0,3
2009	4,7	1,1	1,1	0,3
2010	3,0	-0,6	0,4	0,6
2011	2,9	-0,8	0,7	0,6
2012	1,7	-2,0	4,0	0,8
2013	3,9	0,2	0,0	0,4
2014	4,0	0,3	0,1	0,4
2015	0,5	-3,2	10,3	0,9
2016	1,0	-2,7	7,1	0,9
2017	1,6	-2,1	4,4	0,8
	3,7		**1,6**	

Once the two quality measures are constructed, it is seen that, on average, their values with the transformational management are higher than those of the inertial management.

Quality measure 1 is designed the way that when the value decreases, that means that the professional experience increases and vice versa, the bigger the value, the lower the experience of the managers in the BSRG system. The most experienced are the managers in 2008 and least experience are the managers in 2012.

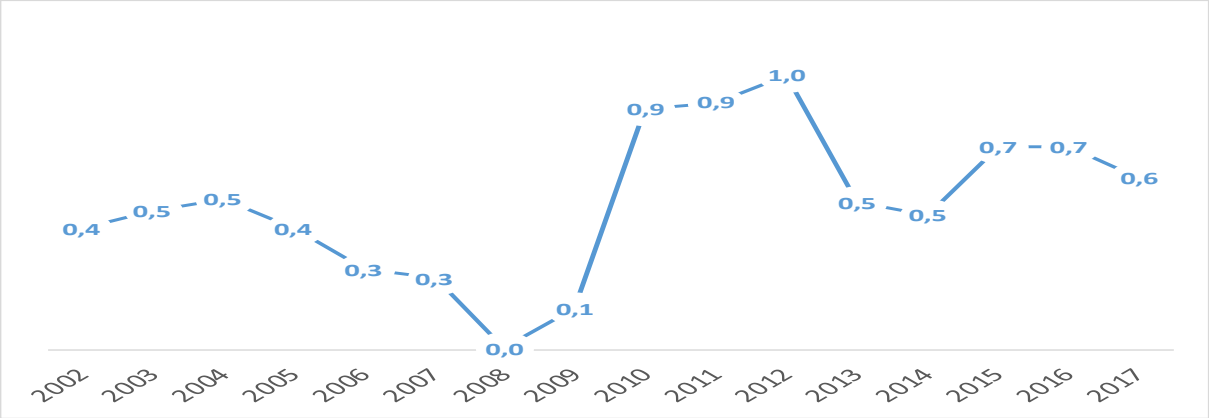


Fig. 2 Quality measure 1

Quality measure 2 is designed the way that the higher values mean higher professional competencies of the management. The most competent are the managers in 2015 and least competent the managers in 2002 - 2009.

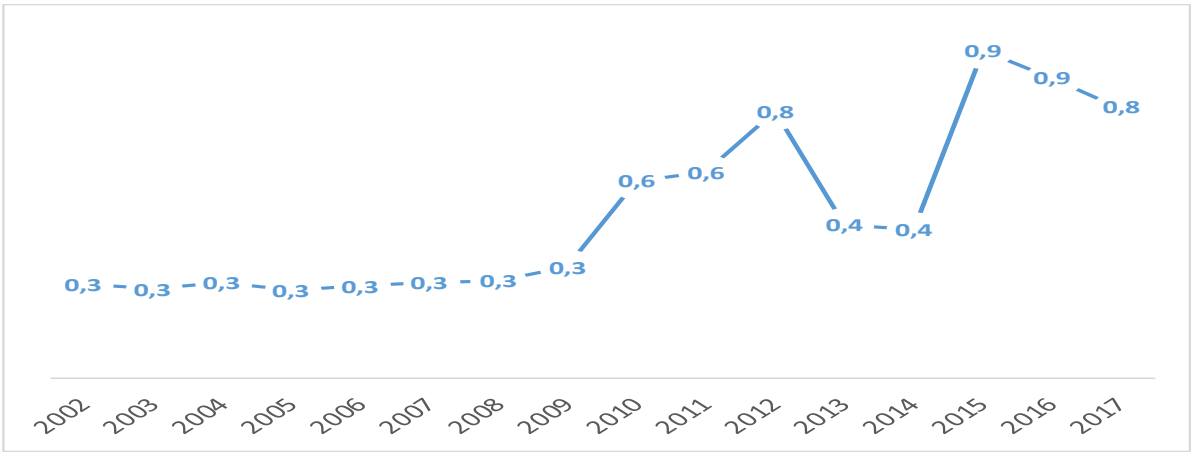


Fig. 3 Quality measure 2

The Group Statistics Table shows that the average value of the first quality measure with the inertial management is 0.368. With the transformational management, it is 0.814. Similar to the second qualitative variable, the mean for the transformational management is higher than that for the inertial management. However, this still does not justify claiming that this difference is statistically significant, i.e., that it objectively exists.

Table 10. Group Statistics

	Management	N	Mean	Std. Deviation	Std. Error Mean
Q1	Inertial	10	**.368**	.1839	.0581
	Transformational	6	**.814**	.1364	.0557
Q2	Inertial	10	**.303**	.0691	.0219
	Transformational	6	**.743**	.1459	.0596

Therefore, it will be checked whether the quality measures are statistically significantly higher with the transformational management compared to those with the inertial one. For this purpose, a statistical hypothesis test will be performed. It goes through the following stages:

First stage - Null and alternative hypothesis are defined.

H_0: Quality measures for the transformational and the inertial management do not differ.

H_1: Quality measures for the transformational management are higher than those for the inertial one.

Second stage – the risk of a first-order error is determined. The test will be performed at a 1% risk of error (α = 1%) and a 99% probability of security.

Third stage – a selection of a hypothesis test criterion. The criterion may be parametric – when the variable is on a substantial scale and has a normal distribution, and nonparametric – in all other cases. Parametric methods with equal other conditions have a smaller second-order error, and therefore, it is better to apply such a method.

Both variables are quantitative, which puts them on a robust measurement scale. It remains to be tested whether their distribution is normal for a parametric method used to test the hypothesis. The distribution normality will be determined through the Shapiro-Wilk test, which is appropriate in a few cases (as is ours). This is also a type of hypothesis test that examines both hypotheses:

H_0: Distribution of the variable is normal

H_1: Distribution of the variable differs from the normality

In order to assume one or the other hypothesis, the significance level (Sig.) is compared to the assumed risk of error, which in this case is 1%. In the case of QM1, the significance level Sig. = 95.6% is greater than the assumed 1% error risk, which does not justify the rejection of the null hypothesis, that QM1 distribution is normal as show in Test of Normality Table. In the second case for QM2 the significance level Sig. = 0.6% is less than the assumed 1% error risk, which justifies the rejection of the null hypothesis and assuming the alternative one that the variable QM2 has not a normal distribution as show in Table 11. These findings are also confirmed by a 5% error risk and through the Kolmogorov-Smirnov test, which also serves to determine the distribution normality but in a large number of cases.

Table 11. Tests of Normality

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Q1	.118	16	.200*	.979	16	**.956**
Q2	.238	16	.016	.826	16	**.006**

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

After testing the distribution normality, it appears that a parametric test method can be used for the QM1 variable and it will be based on the t-test. For the QM2 variable, a nonparametric analogue of the m-test will be used, namely the Mann-Whitney test.

Forth stage – the type of critical area is determined. Since the direction of the alternative hypothesis is set, the critical area (W) is one-sided.

Fifth stage – the amount of theoretical characteristic formed only under the influence of random factors is determined. In our case, this will be done automatically based on statistical software.

Sixth stage – it is decided to accept or reject the null hypothesis set out at stage one. This takes place on the basis of the significance level Sig. When the significance level exceeds the assumed error of 1%, then the null hypothesis cannot be rejected. When the significance level is less than the error, then the null hypothesis is rejected, and the alternative one is assumed.

Table 12. Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Q1	Equal variances assumed	.964	.343	-5.131	14	**.000**	-.4464	.0870	-.6329	-.2598

Table 13. Test Statistics[a]

	Q2
Mann-Whitney U	.000
Wilcoxon W	55.000
Z	-3.254
Asymp. Sig. (2-tailed)	.001
Exact Sig. [2*(1-tailed Sig.)]	**.000**[b]

a. Grouping Variable: Management

b. Not corrected for ties.

The significance level of both tests Sig = 0.0% is less than the error risk of 1%, which gives reason to reject the null hypothesis for both qualitative measures, which in turn means that the quality measures with the transformational management are statistically significantly higher than those with the inertial one, and this can be confirmed with a 99%.

Once proven that the quality measures differ with the two types of management, it will be determined how they affect the three financial performance measures of the Holding, such as EBITDA, EBIT, and DEBT.

Table 14. KPIs BSRG 2002-2017 EUR thousands

KPAs	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
EBITDA	-23	-6	2	1	21	26	28	19	19	20	35	41	30	30	20	11
EBIT	-36	-21	-15	-17	-1	1	-4	-25	-21	-19	-14	-10	-17	-11	-3	-5
Debt	101	116	162	213	255	278	431	434	422	398	377	325	287	258	231	206
Q1	0,4	0,5	0,5	0,4	0,3	0,3	0	0,1	0,9	0,9	1	0,5	0,5	0,7	0,7	0,6
Q2	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,6	0,6	0,8	0,4	0,4	0,9	0,9	0,8

To account for the impact of each management, the financial performance indicators are attributed to the management they refer to. Then the dynamic order of financial performance indicators and the quality measures are divided into two periods – transformational and inertial management. Thus will be determined the direction of impact of each management on the financial performance indicators. This will be done through correlation analysis.

The correlation analysis gives an answer to the question of the strength and direction of the relationship between the variables. It ranges from -1 to +1, and the closer it is to -1 / + 1, the stronger the relationship between the variables is. At 0, the relationship is missing. Provisionally, the factor can be named as per the following limits:

$0 < |R| < 0.3$ – weak correlation

$0.3 < |R| < 0.5$ – moderate correlation

$0.5 < |R| < 0.7$ – significant correlation

$0.7 < |R| < 0.9$ – high correlation

$0.9 < |R| < 1.0$ - very high correlation

Table 15. Correlation relationships with inertial management

		EBITDA	EBIT	Debt
Q1	Pearson Correlation	-.310	-.345	**-.749**
	Sig. (2-tailed)	.383	.328	.013
	N	10	10	10
Q2	Pearson Correlation	**.651**	.022	.347
	Sig. (2-tailed)	.041	.951	.326
	N	10	10	10

The results of the correlation analysis are obtained at a 5% error risk.

With the inertial management, a significant relationship is established between the first quality measure and the debt, and between the second quality measure and the operating profit.

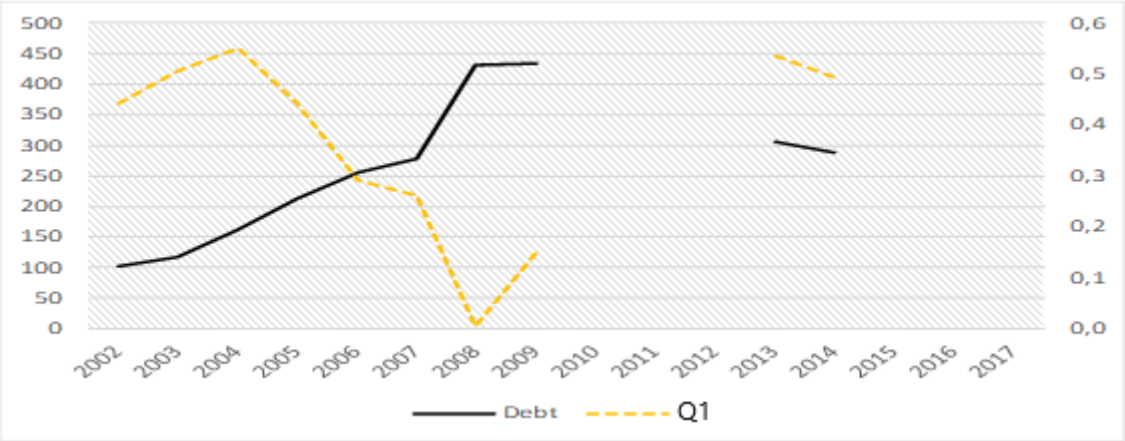


Fig. 4 Q1 and debt correlation

The relationship between the first quality measure and the debt is characterised as a high reverse correlation. That means that when Q1 decreases, the debt increases and because the construction of the indicator is such that with its' decrease, the professional experience within BSRG increases, that means that when the professional experience within BSRG increases the debt also increases. The other correlation dependence that emerges is a significant correlation between the second

quality measure and the EBITDA. This means that when, on average, the professional competence does not change, this leads to an increase in EBITDA with the inertial management. However, this correlation makes no sense.

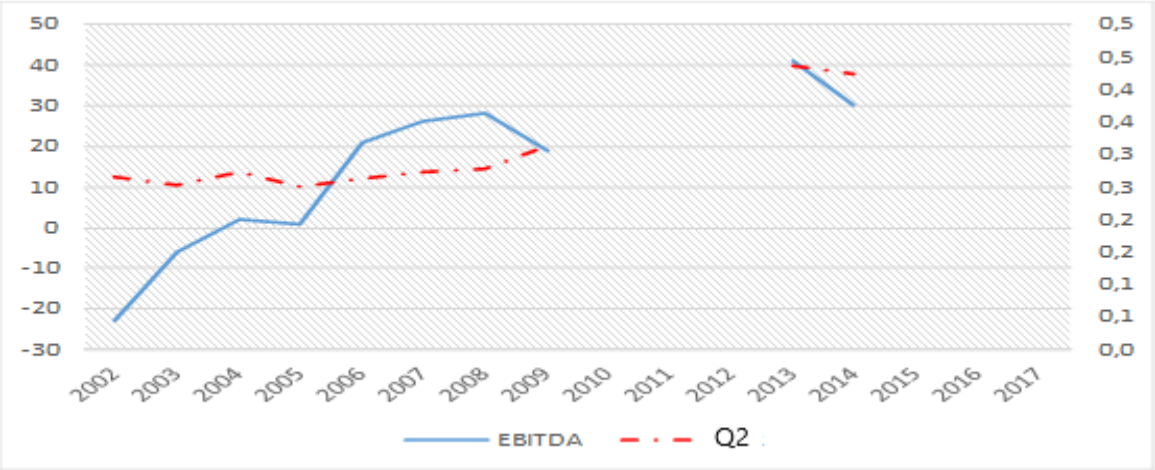


Fig. 5 EBITDA and Q2 correlation

No other significant correlation dependencies on the inertial management have been established.

With the transformational management, a single significant relationship is established at a 5% risk of error, and it is between the second quality measure and the debt.

Table 16. Correlation relationships with transformational management

		EBITDA	EBIT	Debt
Q1	Pearson Correlation	.624	-.732	.754
	Sig. (2-tailed)	.186	.098	.083
	N	6	6	6
Q2	Pearson Correlation	.325	.769	**-.849**
	Sig. (2-tailed)	.529	.074	.032
	N	6	6	6

This means that when, on average, the professional competence increases, this leads to debt reduction with the transformational management.

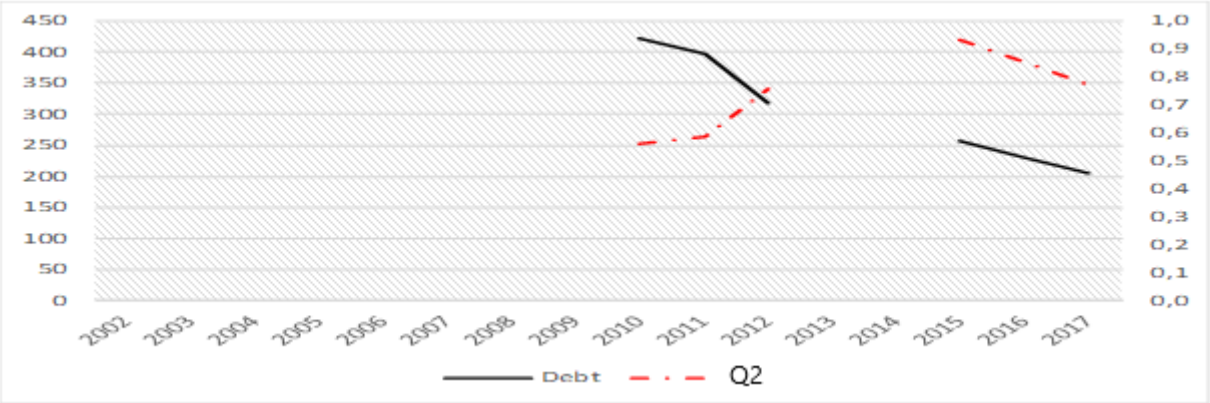


Fig. 6 Q2 and debt correlation

Moreover, at a more significant marginal risk of error of 10%, there are significant feedbacks between the first quality measure and the gross profit before interest and taxes, a significant direct relationship between the first quality measure and the debt, as well as a significant relationship between the second indicator and the gross profit before interest and taxes.

The general trend is that when the transformational management's professional experience increases, this leads to an increase in the gross profits and to debt reduction with the transformational management. As to the professional competence, improving the general professional competence leads to an increase in the gross profit and to debt reduction.

Since the period of the transformational management is too short (only 6 years), it cannot be proved that there is a clear correlation between these few marginal differentiated relationships.

Conclusion. *It is noteworthy that there is inertia with the inertial management with the professional experience indicator, thus with each subsequent year the financial performance indicators deteriorate. With the transformational management, this inertia is absent and a year of additional experience leads to improved financial performance indicators.*

APPENDIX 3

Table 1. Indicators BSRP (in euro)

№		2010	2011	2012	2015	2016	2017	Total
1	Total number of measures	30	4	3	22	10	6	**73**
2	Implemented measures	26	3	3	17	8	4	**59**
3	Non-implemented measures	4	1	0	5	2	2	**13**
4	Total expected effects of planned measures	3113066	7772431	1265977	119110	420181	1660299	**14351063**
5	Omited effects of untimely identification	0	5827705	163330	78927	229304	0	**6350395**
6	Omited effects of late implementation	2438249	7050725	123830	0	360461	0	**9973265**

Table 2. Indicators BSRF (in euro)

№		2010	2011	2012	2015	2016	2017	Total
1	Total number of measures	16	3	5	8	12	8	**52**
2	Implemented measures	15	2	4	6	8	6	**42**
3	Non-implemented measures	1	1	1	2	4	2	**10**
4	Total expected effects of planned measures	3121545	1686	7473791	9101186	4690451	3386569	**27775227**
5	Omited effects of untimely identification	0	1458663	2080871	14236327	18757295	19304223	**55837378**
6	Omited effects of late implementation	0	7133074	0	20201917	3224722	4701264	**35260978**

Table 3. Indicators BSRH (in euro)

№		2010	2011	2012	2015	2016	2017	Total
1	Total number of measures	14	5	6	5	1	1	**31**
2	Implemented measures	13	4	4	4	1	1	**26**
3	Non-implemented measures	1	1	2	2	0	0	**5**
4	Total expected effects of planned measures	11479619	3095058	12719951	41968441	27924400	48385440	**145572910**
5	Omited effects of untimely identification	0	0	0	0	0	0	**0**
6	Omited effects of late implementation	0	0	557308	0	0	0	**557308**

Table 4. Indicators BSRG (in euro)

№		2010	2011	2012	2015	2016	2017	Total
1	Total number of measures	59	11	13	35	22	15	**156**
2	Implemented measures	54	9	10	27	17	11	**128**
3	Non-implemented measures	5	2	3	9	6	4	**28**
4	Total expected effects of planned measures	17714230	10869175	21459718	51188737	33035032	53432308	**187699200**
5	Omited effects of untimely identification	0	7286368	2295329	14315254	18986599	19304223	**62187773**
6	Omited effects of late implementation	2438249	14183799	681138	20201917	3585183	4701264	**45791551**

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